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STATE AUDITOR'S REPORT
ON CERTAIN ASPECTS OF THE
DEPARTMENT OF EDUCATION'S
IMPLEMENTATION AND MONITORING
OF THE MASSACHUSETTS EDUCATION
REFORM ACT OF 1993
JUNE 30, 1993 THROUGH JUNE 30, 1996

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OFFICIAL AUDIT REPORT
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INTRODUCTION

1

Over the past four decades, the primary emphasis of public education in the United States, and particularly Massachusetts, has focused on providing an equal educational opportunity for all students. Massachusetts, which has historically been at the forefront in implementing reforms to its public education system, has over the past two decades enacted two significant pieces of education reform legislation. The first of these, Chapter 188 of the Acts and Resolves of 1985, provided approximately \$1.8 billion in additional funding to cities and towns for educational purposes through various grants. Subsequent to the enactment of this legislation, the need for additional reform was reinforced by a Massachusetts Supreme Judicial Court (SJC) ruling in 1993 entitled McDuffy v. Secretary of Education. In its decision, the SJC stated that the Commonwealth's constitutional duty to provide an education to all children enrolled in Massachusetts public schools was not being fulfilled. Consequently, the SJC adopted from the Supreme Court of Kentucky broad guidelines regarding what it means to educate children. Partly in response to this anticipated SJC decision, and a report issued by the Massachusetts Business Alliance for Education entitled "Every Child a Winner," in June 1993 the state Legislature enacted the second piece of education reform legislation, Chapter 71 of the Acts and Resolves of 1993, known as the Massachusetts Education Reform Act (MERA) of 1993. MERA was designed to provide statewide systematic reform for Massachusetts public schools and may provide up to an additional \$1.5 billion to cities and towns.

For our audit we examined various aspects of MERA. Our specific audit objectives were to: (1) obtain an understanding of education reform in Massachusetts, primarily focusing on MERA; (2) assess the effect MERA has had and will have on public education within the Commonwealth; (3) determine whether the process used by the state's Department of Education (DOE) to develop and implement MERA was efficient, effective, and in accordance with the requirements specified in the MERA statute; (4) determine whether controls were in place (e.g., monitoring mechanisms) to measure or assess the impact of programmatic and financial objectives of MERA; and (5) make recommendations for facilitating education reform within the Commonwealth.

AUDIT RESULTS

14

1. Weaknesses in the Implementation and Administration of MERA Have Provided Inadequate Assurance That the Projected \$1.5 Billion Increase in State Aid Provided under This Legislation Will Improve Public Education: During the past 11 years, Massachusetts has enacted two significant laws designed to improve the quality of public education within the Commonwealth. The first law, Chapter 188 of the Acts and Resolves of 1985, provided approximately \$1.8 billion in grants to cities and towns for at-risk students, teachers and

14

TABLE OF CONTENTS/EXECUTIVE SUMMARY (Continued)

Page

administrators, curriculum enhancement, and community activities. The second law, MERA, which was enacted in June 1993, may provide up to an additional \$1.5 billion to provide statewide systematic reforms to Massachusetts public schools. Although these legislative acts have helped public schools in the Commonwealth fiscally by providing them with additional state funding, our review of MERA revealed a number of operational and administrative problems relative to its implementation and administration. Specifically, a systematic approach to problem solving was not utilized in the implementation of MERA.

For example, DOE did not establish a baseline measurement from which to assess any improvements in educational outcomes that may be derived from this legislation, and DOE does not plan to begin full assessment testing until 1999. Therefore, the Commonwealth may not be able to accurately assess the impact of MERA for several years.

We also found that, because DOE has not established monitoring and feedback mechanisms to monitor MERA-funded expenditures, there is inadequate assurance that the additional funding provided under MERA is being expended in the most economical and efficient manner and in accordance with legislative objectives. This lack of a systems approach, which should include assessment, monitoring, and feedback mechanisms, has prevented DOE from determining the effectiveness of previous reform initiatives. For example, DOE was not able to explain what impact the approximately \$1.8 billion in state funds provided to cities and towns under Chapter 188 of the Acts of 1985 has had on improving the quality of public education within the Commonwealth.

In addition, there is no direct correlation between the additional funding provided under MERA and the outcomes relative to its objectives. As a result, school systems are able to use these funds in any way they deem necessary. In fact, a recent audit of the Lawrence Public Schools (LPS), (Audit No. 97-6003-9) issued by the Office of the State Auditor determined that LPS was expending a significant amount of MERA funds on questionable items while Lawrence High School lost its accreditation. Moreover, MERA does not require specific training for educators relative to the requirements of MERA. According to DOE and Massachusetts Teachers Association officials, although MERA will require teachers to introduce new concepts and teaching methods within the classrooms, the law does not require any teacher training specific to these new methods. Consequently, there is inadequate assurance that these new methods and techniques are being effectively utilized in the classrooms.

Finally, although DOE officials believe that the adoption of the Common Core of Learning (CCL) and Academic Standards are the heart of MERA's programmatic objectives, the adoption of the CCL

and Academic Standards are not mandated by this legislation. Therefore, although the intent of MERA is to effect true and meaningful education reform within the Commonwealth, some of its most significant initiatives are not mandated and do not have to be adopted by all school systems. Also, the creation of all the curriculum frameworks and the development of academic standards have yet to be completed despite the fact that this legislation was enacted almost four years ago.

Because of these and other problems relative to education reform initiatives, the Commonwealth cannot be assured that the approximately \$1.5 billion in additional state funding that may be provided to cities and towns under MERA will have a significant and intended impact on public education within the state.

2. DOE Has Not Fully Complied with the Legislative Intent of MERA Relative to Time and Learning: MERA requires the Board of Education to prepare a plan to extend the time during which students attend school to reflect current norms in other industrialized nations. In response to this requirement, the board created the Massachusetts Commission on Time and Learning to establish appropriate plans. In September 1994, the commission issued a report that made a recommendation to amend DOE regulations and redefine what constituted instructional hours. The amended regulations would have increased the amount of instructional time students would receive in core subjects (e.g., math, science, English, history and social studies, foreign languages, and the arts). In addition, the commission recommended excluding early release days from the annual 180 school day minimum requirement. However, according to DOE officials, due to opposition from non-core-subject teachers (e.g., health, physical education, and home economics) and other groups, these recommendations were never implemented. Therefore, the requirement of this section of MERA to change the time and learning structure of our public school system has not been met.

CONCLUSIONS AND RECOMMENDATIONS 51

APPENDIXES 55

A. Graphs:

1. Chapter 188 Grant Expenditures: 1986-1993 55
2. National SAT Scores vs. National Per-Pupil Expenditures in Constant 1993 Dollars, 1970-1993 56
3. International Comparison of 1991 Science Test Scores for 13-Year-Olds 57
4. International Comparison of 1991 Math Test Scores for 13-Year-Olds 58

TABLE OF CONTENTS/EXECUTIVE SUMMARY (Continued)

	<u>Page</u>
B. Organizations Contacted during the Audit	59
C. School Systems Surveyed	60
D. Description of DOE's Objectives Relative to MERA	61
E. Description of Aid Provided under MERA	64
F. Bibliography of Referenced Publications	65

INTRODUCTION

Background

The history of education in Massachusetts has been shaped by various social, political, and economic factors. Throughout the 19th century, education policy was primarily a function of state and local government. With the exception of vocational education and land grants, the federal government was not involved in education policy until the 1940s. Since World War II, the issue of improving education within our society has been addressed by the federal government on a continual basis. Specific measures taken by the federal government to enhance the educational proficiency of the general population over the past five decades include the following:

- o In 1944, President Roosevelt signed the Servicemen's Readjustment Act, (Public Law 78-346), known more commonly as the "GI Bill." This legislation granted a government-funded college education to every qualified veteran.
- o The National School Lunch Act was passed (Public Law 79-396) in 1946 to ensure that all children are properly nourished.
- o During the 1950s there were concerns within the United States that the Soviet Union was winning the technology race due to manpower shortages in the science and engineering fields. This led to the passage of the National Defense Education Act of 1958 (Public Law 85-864), which provided curriculum reform and funding for science, mathematics, modern foreign languages, and other critical subjects. Total funding for this Act totaled \$300 million over a four-year period.
- o The National Science Foundation was established by the federal government in 1950 as an independent agency concerned with promoting a national science policy by supporting basic research and education.

During the 1960s, educational policy within the United States shifted from global competition to equal educational opportunity. President Johnson's "War on Poverty" during the mid-1960s produced a number of initiatives to equalize educational opportunity for all school-age students, as follows:

- o The Economic Opportunity Act of 1964 (Public Law 88-452) created the Head Start Program, which provides development opportunities and nutrition supplementation for children from low-income families. In 1966, \$96 million was spent on Head Start programs nationwide. Funding for this program had grown to \$3.3 billion in 1994.

- o The Elementary and Secondary Education Act (Public Law 89-10) was passed in 1965. This Act provided financial assistance to local educational agencies for the education of children from low-income families, supplemental educational services, research and training, and grants to strengthen state departments of education. In 1966, the federal government appropriated approximately \$1.2 billion to fund this Act. Of this amount, approximately \$1 billion was for the education of children from low-income families. Funding for this Act has grown from \$1.2 billion in 1966 to over \$6.1 billion in 1992.

While the federal government began to refocus its educational policy, the Commonwealth of Massachusetts began making significant changes in the state's public school system. The most significant changes during the last three decades include the following:

- o The Willis-Harrington Act (Chapter 572 of the Acts and Resolves of 1965) overhauled Massachusetts public schools. This law, entitled an Act to Improve and Extend Educational Facilities in the Commonwealth, established three boards: a Board of Education, (BOE), a Board of Higher Education, and an Advisory Council on Education. Some of the requirements placed upon the BOE were to: establish minimum educational standards for all courses; provide a common center for the development, evaluation, and adaptation of educational innovation; establish a minimum length of the school day and a minimum number of days for the school year; and establish maximum pupil-teacher ratios for classes in public schools.
- o Chapter 14 of the Acts and Resolves of 1966 (Massachusetts General Laws Chapter 70) established a 3% state sales tax and called for "the equalization of educational opportunity in the public schools of the Commonwealth and equalization of the burden of the cost of school support to the respective cities or towns." This law established the Massachusetts Local Aid Fund, a separate fund used solely for state assistance to cities and towns.
- o In 1971, Massachusetts passed a Transitional Bilingual Education Act, Chapter 1005 of the Acts and Resolves of 1971. Under this law, every student has the right to be taught in his or her native tongue until the student has sufficient command of the English language (minimum of three years). The state expended a total of \$18,433,945 to cities and towns from 1972 through 1986 in support of bilingual education programs (this is independent of any local funding for bilingual education).
- o In 1972, Massachusetts passed the nation's first Special Education Law, Chapter 766 of the Acts of 1972 (Massachusetts General Laws, Chapter 71B). This Act provided for a flexible and uniform system for delivering special education services and a nondiscriminatory system for evaluating needs.
- o Chapter 636 of the Acts from 1974, known as the Racial Imbalance Act, required cities and towns to maintain an equal or proportionate balance of white students and non-white students within each school.

Transportation costs incurred by cities and towns due to this law are reimbursed by the Commonwealth; which spent \$214 million on Racial Imbalance programs from 1969 through 1994.

- o The concept of Magnet schools was born out of the need to desegregate schools. State law defines a school as racially imbalanced when it has more than 50% minority students. Magnet schools are publicly funded schools designed to provide distinctive or specialized curricula ranging from performing arts to computer sciences and engineering. Between 1975 and 1981, the federal government spent up to \$30 million annually for Magnet schools, and Massachusetts committed a total of \$223 million in support of Magnet schools from 1975 through 1994.
- o Chapter 367 of the Acts and Resolves of 1978 provided \$16 million in funding to school districts throughout the state. This funding was intended for the following uses: reimbursement to towns for costs incurred under the program for the elimination of racial imbalance, grants for the cost of providing Magnet school programs, and grants to establish equal education improvement funds.
- o In 1985, the Massachusetts Legislature attempted to reform education with the passage of Chapter 188 of the Acts and Resolves of 1985. This Act provided grant programs totaling over \$1.8 billion from 1986 through 1994 to cities and towns to be used in the following areas:
 - (a) Opportunities for At-Risk Students: These grants were designed to be available for early childhood programs, districts where the per-pupil expenditure is less than 85% of the state average, districts with a high number of students who test below the minimum standard, and drop-out prevention programs.
 - (b) Support for Teachers and Administrators: The purpose of these grants was to raise teachers' salaries to a minimum level of \$18,000 to \$20,000 and encourage teachers to expand their responsibilities in such areas as curriculum and professional development. Grants of up to \$2,500 per year were provided to deserving teachers (Horace Mann Grants) and for additional compensation to teachers for professional development.
 - (c) Curriculum Enhancement: The purpose of these discretionary grants was to fund instructional materials and computer software, educational technology, comprehensive health programs, gifted and talented programs, and the development and implementation of science projects in collaboration with local museums.
 - (d) Community and Parent Involvement: This grant program funded up to \$15 per pupil to schools that established a school improvement council.

In 1981, the U.S. Department of Education formed the National Commission on Excellence in Education. In 1983 this commission issued a report entitled "A Nation At Risk," which made the following statement relative to public education:

If an unfriendly foreign power attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. . . . We have, in effect, been committing an act of unthinking, unilateral educational disarmament.

The report identified a series of risks to our society which, according to the report, "threaten our very future as a nation and a people." The most significant concerns raised in this report included the following:

- o The average achievement of high school students on most standardized tests was lower than 26 years earlier, when Sputnik was launched.
- o The College Board's Scholastic Aptitude Tests (SAT), nationally and for Massachusetts, demonstrate a virtually unbroken decline from 1963 to 1980. Average SAT verbal scores fell over 50 points, and average mathematics scores dropped nearly 40 points.
- o Business and military leaders expressed discontent over requirements to spend millions of dollars on costly remedial education and training programs in such basic skills as reading, writing, spelling, and computation.
- o There was a decline in the average tested achievement level of students graduating from college.
- o International comparisons of student achievement completed in the preceding decade revealed that, on 19 academic tests, American students were never first or second and, in comparison with other industrialized nations, were last seven times.

The report also made several general recommendations, including:

- o Academic requirements should be strengthened, and all students graduating from high school should have a solid foundation in the following five subjects: English, mathematics, science, social studies, and computer science. These subjects were labeled as the "new basics."
- o Schools should adopt more rigorous and measurable standards and higher expectations for academic performance and student conduct.
- o More time should be devoted to learning the new basics.

In addition to legislation being enacted on the federal and state level to reform public education, various groups attempted to address problems within public education. For example, in 1988 a group of Massachusetts businessmen formed the Massachusetts Business Alliance for Education (MBAE), whose objective was to improve public education by providing students with the

knowledge and skills necessary for them to be productive, informed citizens. In 1991, MBE issued a report entitled "Every Child a Winner" that identified inadequate funding as one of several problems within public education and recommended the following:

- o Update and broadly communicate goals of education in Massachusetts.
- o Develop performance indicators at state and local levels.
- o Ensure preschool education for all three- and four-year-old children.
- o Develop a comprehensive parent outreach/education program.
- o Extend the amount of school time (by 20% in some cases).
- o Improve the teacher workforce through professional development, alternative certification, and tenure reform.

In 1989, President Bush and the nation's governors convened in Charlottesville, Virginia for an education summit to establish a series of education goals to be reached by the year 2000. The summit members recommended seven goals, which became the basis of the President's proposed "America 2000 Goals" legislation. Although this legislation was not enacted, in 1994 President Clinton, who was an active participant in the 1989 summit, proposed similar legislation entitled "Goals 2000 Educate America." This legislation, which was signed into law (Public Law 103-227) on March 31, 1994, contains eight goals, including:

- o Increase the high school graduation rate to at least 90%.
- o Prepare students to demonstrate competency in challenging subjects and instill responsible citizenship.
- o Strive to be first in the world in math and sciences.
- o Increase adult literacy.
- o Ensure teacher programs for continued improvement of their professional skills.

In addition to such goals, the Act created a National Education Standards Improvement Council, which is responsible for developing model academic and testing standards for the states to follow. This Act also created a National

Skill Standards Board, which is responsible for examining the work skills needed for certain jobs and developing skill standards for occupations. The passage of this legislation signified the first time in the history of the United States that the federal government directly undertook the task of establishing academic standards.

The need for improvement in the equity of public education was reinforced by a Massachusetts Supreme Judicial Court (SJC) ruling in 1993 entitled McDuffy v. Secretary of Education. As stated in this case, the Massachusetts Constitution imposes an enforceable duty on the state, as follows:

To provide education in the public schools for the children there enrolled, whether they be rich or poor and without regard to the fiscal capacity of the community or district in which such children live. It shall be declared also that the constitutional duty is not being currently fulfilled by the Commonwealth. Additionally, while local governments may be required, in part, to support public schools, it is the responsibility of the Commonwealth to take such steps as may be required. . . to devise a plan and sources of funds sufficient to meet the constitutional mandate.

In its decision, the SJC adopted from the Supreme Court of Kentucky broad guidelines regarding what it means to educate children. These guidelines consist of the following capabilities:

- o Sufficient oral and written communication skills to enable students to function in a complex and rapidly changing civilization.
- o Sufficient knowledge of economic, social, and political systems to enable students to make informed choices.
- o Sufficient self-knowledge and knowledge of his or her mental and physical wellness.
- o Sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage.
- o Sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to choose and pursue life's work intelligently.
- o Sufficient level of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics or in the job market.

At the time of the SJC decision, the state Legislature was debating legislation relative to reforming public education in Massachusetts and in June 1993 enacted Chapter 71 of the Acts and Resolves of 1993, the Massachusetts Education Reform Act (MERA). MERA, which was designed to provide statewide systematic reform for Massachusetts public schools, consists of 105 sections that proposed changes to the state's current public education system in the following seven areas:

- o Educational personnel
- o Education programs
- o Local governance
- o School finance
- o State governance
- o Policies affecting students
- o Technical changes in regulations and other legislation

In October 1993, the Department of Education (DOE), which was designated by this legislation as the primary agency responsible for MERA's implementation, issued an Education Reform Implementation Plan, consisting of 54 financial and programmatic objectives that it deemed necessary to satisfy the requirements of MERA (See Appendix D). The goal of the implementation plan's financial objectives (five of the 54) was to develop and administer a fair and equitable system of school finance. In order to accomplish this task, MERA provides state funds (subject to appropriation) to communities through six local aid programs: Foundation, Equity, Overburden, Minimum, New Region, and School Choice Aid (see Appendix E). These six sources of aid, as well as local tax revenues committed to public education, are incorporated into the Foundation Formula Funding Program (Foundation Budget).

The Foundation Budget is the most significant fiscal objective of MERA and DOE's implementation plan. According to MERA, a foundation budget is a budget that identifies the minimum funds necessary to effectively operate a particular public school system. The development of a Foundation Budget for each district is a systematic process based on estimated statewide average

per-pupil operating costs. The intent of this initiative is for every school system to reach a predetermined level of spending by the year 2000. State aid is systematically distributed to school systems to assist them in reaching the Foundation Budget's spending level.

The Foundation Budget concept was first introduced in MBAE's 1991 report and later adopted by the Legislature. Each year, the state increases its share of state aid to education in an effort to ensure that every school system meets its Foundation Budget total by the year 2000. The following table identifies increased state aid from 1994 through 1996 and projected increases from 1997 through the year 2000 as a result of the Foundation Budget:

<u>Fiscal Year</u>	<u>Increase in State Aid</u> <u>(in Millions)</u>
1994	\$ 143.9
1995	189.8
1996	201.1
1997	229.8
1998	228.5
1999	274.9
2000	<u>289.3</u>
Total	<u>\$1,565.3</u>

In addition, DOE has developed 49 programmatic objectives within its implementation plan. The programmatic objectives of DOE's plan attempt to address three main goals:

- o New programs and standards that will ensure high achievement for all students.
- o A governance structure that encourages innovation and accountability at all levels.
- o Standards and processes that will enhance the quality, professionalism, and accountability of all education personnel.

According to DOE, these goals, including the need for a fair and equitable system of school finance, was the intent of MERA. The most significant programmatic objectives include the development of a Common Core of Learning (CCL), Curriculum Frameworks, Academic Standards, and a Student Assessment Program.

The CCL is a set of broad learning goals developed through public forums and seminars throughout Massachusetts by the Common Core of Learning Commission, which was established by Board of Education. The CCL is considered to be the basis for what students should be taught in Massachusetts.

The Curriculum Frameworks are subject guides developed through DOE to assist teachers in teaching the core academic subjects. These frameworks reflect the goals within the CCL.

The development of Academic Standards will be based on the content of the CCL. According to the implementation plan, the Academic Standards are at the heart of education reform. Academic Standards developed in Massachusetts and nationally cover a broad range of philosophies. Specifically, Content Standards establish what should be learned in various subject areas and emphasize critical-thinking and problem-solving strategies; Performance Standards define the levels of learning that are considered satisfactory; Opportunity-to-Learn Standards pertain to the conditions and resources necessary to give students an equal chance to meet the Performance Standards; and World Class Standards are based on the content presented to and the expectations held for students in other countries. These standards will be used to better ensure that students will have sufficient skills to compete in the global economy.

The Student Assessment Program is essential in determining the success of MERA. According to the law, student assessment tests will be designed to measure outcomes and results regarding student performance and to improve the effectiveness of curriculum and instruction.

Despite the increased financial commitment to improving education over the past 30 years, including MERA, various academic outcome measures seem to indicate a general decline in the performance of certain groups of students. For example, average Scholastic Aptitude Test (SAT) scores have declined by a

total of 73 points from 1960 to 1994. Furthermore, according to a survey conducted by the U.S. Department of Education, National Center for Education Statistics, American students are not competing well with other industrialized nations. As detailed in Appendix A, American students ranked 13th in comparison with students of 14 industrialized nations (participating in the survey) in math scores and 12th out of 14 in science scores, despite that it ranks among the highest in per-pupil spending.

The causes of the decline in public education outcome measures have been largely debated, and there has never been a consensus on what they are or the most effective and efficient way to resolve these issues. One major obstacle in addressing the problems public education is defining the role of the public school. Although some common needs exist, diversity from one community to the next requires each school system to define its own role within the community. According to officials from the Massachusetts Teachers Association (MTA), one of the main problems with our public education system is this lack of consensus regarding the mission of our public schools. According to these officials, society has not identified the role or mission of our public schools, and until this mission is clear, it will be very difficult to successfully reform education.

Although there is no clear consensus, many education professionals have expressed opinions as to the problems within our public school system. For example, in 1989 Dr. John Silber, then President of Boston University, published a book entitled "Straight Shooting," in which he stated:

Once our common schools, even in unpromising backwoods environments, were capable of producing not only an Abraham Lincoln but a well-educated, literate population fully capable of following the Lincoln-Douglas debates. Now the schools turn out millions of functionally illiterate graduates effectively deprived of any cultural heritage.

In this book, Dr. Silber identifies the following five critical issues that, in his opinion, contribute most to the problems associated with our

educational system: decline of the family, loss of respect for teachers, loss of moral understanding and moral focus in teaching young people, the threat to effective education posed by bilingual education programs, and the assumption that funds will solve these problems.

Albert Shanker, former President of the American Federation of Teachers, a nonprofit organization that represents approximately 900,000 teachers nationwide, identified four essential elements necessary for effective school systems: student discipline, academic standards, external assessments, and incentives for hard work. Mr. Shanker claims that other industrialized countries have successful public school systems because they have these elements.

Dr. William Bennett, former U.S. Secretary of Education, stated in his book, "The Devaluing of America," that he did not believe that inadequate funding was a major problem in the quality of public education, stating:

The problem with American education is not that it is underfunded, but that it was under-accountable and underproductive. Over a twenty five year period, we were spending more and more money, and getting fewer and fewer results. In many cases, we were throwing good money after bad. . . [schools] must give greater attention to a sound common curriculum emphasizing English, history, geography, math, and science.

Finally, the Federal Commission on Time and Learning, which was established in 1991 to study the relationship between time and learning in American public schools, issued a report in 1994 entitled "Prisoners of Time." In this report, the commission expressed concern over the number of hours American students spend in the classroom versus students of other industrialized countries (e.g., American students spend less than half the amount of time on core academic subjects than students in Japan, France, and Germany) and emphasized the need for American schools to increase the amount of instructional time spent on core subjects.

Governments and other entities continue to take various measures to try to refine and restructure their ailing public school systems. For example, in 1996 the state Legislature enacted Chapter 151 of the Acts and Resolves of 1996 (the fiscal year 1997 budget). This Act fully funded MERA for the fourth consecutive year and created a new nine-member Board of Education, which replaced the former 15-member Board of Education effective June 30, 1996.

Audit Scope, Objectives, and Methodology

Our audit included an examination of various aspects of Chapter 71 the Acts and Resolves of 1993, commonly referred to as MERA. Our audit focused on education reform affecting grades kindergarten through 12. Therefore, all references in our report to "public education" refer to these grade levels. Our audit was conducted in accordance with applicable generally accepted government auditing standards for performance audits promulgated by the Comptroller General of the United States and included such audit tests and procedures as we deemed necessary to meet our audit objectives.

Our specific audit objectives were to: (1) obtain an overall understanding of education reform in Massachusetts, primarily focusing on MERA; (2) assess what effect this legislation has had and will have on public education within the Commonwealth; (3) determine whether the process used by DOE to implement MERA was efficient, effective, and in accordance with the requirements specified in this statute; (4) determine whether controls were in place to measure or assess the impact of programmatic and financial objectives of the Act; and (5) make recommendations for facilitating education reform within the Commonwealth.

To meet our objectives, we held discussions with officials from the Executive Office of Education, the state's DOE, the Massachusetts Legislative Committee on Education, MTA, MBAE, and the U.S. DOE. The purpose of these discussions was to obtain an understanding of education reform in the Commonwealth and, in particular, the technical aspects of MERA. We also

reviewed and analyzed approximately 150 publications relative to education reform (see Appendix F) and used this information to obtain an understanding of the history of education in the United States as well as in Massachusetts and the prevalent trends and ideologies relative to education reform. We reviewed all applicable state laws and regulations, documentation (e.g., reports and forms) maintained by DOE relative to the implementation of MERA, as well as DOE organizational charts and internal policies and procedures.

Finally, in an effort to receive feedback relative to MERA, we sent a survey to a statistical sample of 84 Massachusetts school superintendents, of whom 37 replied (see Appendix C). Comments made by these school officials in the response to our survey were considered in the drafting of this report.

Our special-scope audit was not intended to examine all aspects of education reform within the Commonwealth. Specifically, our examination did not analyze the impact of the changes in state funding to local school districts that were implemented as a result of MERA. The effect of these funding changes and related topics are currently being examined under a separate review being conducted by the Office of the State Auditor's Division of Local Mandates. However, we point out that, subsequent to the initiation of this audit, at the request of appropriate state officials, we conducted a separate review of certain activities of the Lawrence Public School System, the results of which are documented in our report No. 97-6003-9 dated June 12, 1997. In addition, we did not examine the adequacy of the current public school governance structure, nor did we perform audits of school systems' accounts, records, and activities, since this is the responsibility of the Bureau of Accounts within the Department of Revenue's Division of Local Services and the Department of Education. Rather, our review was primarily limited to an examination of the adequacy of the development and administration of MERA in relation to education reform within the Commonwealth.

AUDIT RESULTS

1. Weaknesses in the Implementation and Administration of MERA Have Provided Inadequate Assurance That the Projected \$1.5 Billion Increase in State Aid Provided under This Legislation Will Improve Public Education

During the past 11 years, Massachusetts has enacted two significant laws designed to improve the quality of public education within the Commonwealth. The first law, Chapter 188 of the Acts and Resolves of 1985, provided approximately \$1.8 billion in grants to cities and towns for at-risk students, teachers and administrators, curriculum enhancement, and community activities. The second law, the Massachusetts Education Reform Act (MERA), which was enacted in June 1993, may provide up to an additional \$1.5 billion to provide statewide systematic reforms to Massachusetts public schools. Although the statutes have helped public schools in the Commonwealth fiscally by providing them with additional state funding, our review of MERA revealed a number of operational and administrative problems relative to its implementation and administration. Specifically, a systematic approach to problem solving was not utilized in the implementation and administration of MERA. For example, DOE did not establish a baseline measurement from which to assess any improvements in educational outcomes that may be derived from this legislation, and DOE does not plan to begin full assessment testing until 1999. Therefore, the Commonwealth may not be able to meaningfully assess the impact of MERA for several years.

We also found that, because the state's Department of Education (DOE) has not established monitoring and feedback mechanisms to monitor MERA-funded expenditures, there is inadequate assurance that the additional funding provided under MERA is being expended in the most economical and efficient manner and in accordance with legislative objectives. This lack of a systems approach, which should include assessment, monitoring, and feedback mechanisms, has prevented DOE from determining the effectiveness of previous

reform initiatives. For example, DOE was not able to explain, document, or demonstrate what impact the approximately \$1.8 billion in state funds provided to cities and towns under Chapter 188 of the Acts of 1985 has had on improving the quality of public education within the Commonwealth.

In addition, there is no direct correlation between the additional funding provided under MERA and the outcomes relative to its objectives. In fact, a number of school systems informed us that they expended MERA funds on such items as special education, building maintenance, salary increases, and transportation services, which are all independent of the programmatic objectives of MERA. Moreover, MERA does not require specific training for educators relative to the requirements of MERA. According to DOE and Massachusetts Teachers Association officials, although MERA will request teachers to introduce new teaching concepts within the classrooms, the law does not require any teacher training specific to these new methods. Consequently, there is inadequate assurance that these new methods and techniques are being effectively utilized in the classrooms.

Finally, although DOE officials believe that the adoption of the Common Core of Learning (CCL) and Academic Standards are the heart of MERA's programmatic objectives, the adoption of the CCL and Academic Standards are not mandated by this legislation. Therefore, although the intent of MERA is to effect true and meaningful education reform within the Commonwealth, some of its most significant initiatives are not mandated and are not required to be adopted by all school systems. Also, the creation of curriculum frameworks and the development of academic standards have yet to be completed, despite the fact that this legislation was enacted over three years ago. Because of these and other problems relative to education reform initiatives, the Commonwealth cannot be assured that the approximately \$1.5 billion in additional state funding that may be provided to cities and towns under

MERA will have a significant positive impact on public education within the state.

While MERA and DOE's implementation plan appear to be a comprehensive attempt at improving the quality of public education within the Commonwealth, we found that the implementation and administration of MERA lacked a systematic approach. Organizations, private and public alike, typically employ what is referred to as a systems approach for identifying and solving problems, which routinely involves the following seven steps:

- o Identifying and defining the problem
- o Developing alternative solutions to address the problem
- o Evaluating the alternative solutions
- o Selecting the most efficient and effective alternatives
- o Implementing selected alternatives
- o Evaluating the process by obtaining feedback
- o Modifying the process as necessary based on feedback

An essential aspect of this problem-solving approach is baselining, which is the process of quantifying a beginning point of a process prior to any improvement effort. This initial or baseline measurement is essential in assessing the effectiveness of a new process. Although we acknowledge that a systems approach may not directly lend itself to solving all problems in education, certain aspects of this approach are clearly applicable to any problem-solving situation. However, we found that a number of activities associated with a systematic approach to problem solving, including establishing appropriate feedback mechanisms and baselining, were not utilized in the implementation of MERA. These deficiencies may preclude the Legislature, DOE, and other interested parties from knowing whether the objectives of MERA are being achieved and whether MERA funding is being expended for its intended purpose. The deficiencies that we have identified are detailed below:

A. MERA Funds Are Not Targeted to Address Specific Problems: Between 1994 and 2000, MERA is expected to provide a projected \$1.5 billion increase in state aid to public school systems. However, the funding provided to cities and towns under MERA is not aimed at accomplishing specific purchases or the achievement of specific measurable outcomes. Rather, MERA provides additional funding to communities that can be used for any general activity directly or indirectly related to education, and not necessarily for meeting MERA's specific objectives. For example, during fiscal year 1997, the Chairman of the Board of Education and the Commissioner of Education requested the Office of the State Auditor (OSA) to perform a review of certain activities of the Lawrence Public School System (LPS) (Audit Report No. 97-6003-9). As a result of this audit, it was determined that LPS was expending MERA funds on questionable items while Lawrence High School lost its accreditation. This is clearly an example of the problems incurred by providing a significant amount of funds to school districts without establishing adequate controls and monitoring over the expenditure of these funds.

B. Lack of Monitoring Mechanisms to Measure the Effectiveness of MERA: The success of any program or activity depends upon management's ability to derive timely, useful, uniform, comprehensive, and reliable information so that outcomes can be measured and processes involved in a program or activity can be re-engineered so that the program or activity can function in the most effective and efficient manner in order to achieve MERA's intended objectives. Effective management involves periodic measurements of program results. Consequently, key steps in any problem-solving process involve establishing measurable objectives and monitoring mechanisms to measure performance. Without such monitoring mechanisms, there is no effective way to judge performance.

Our review revealed that DOE does not utilize any effective monitoring activities to assess the benefits derived by MERA. Specifically, DOE does not monitor the financial expenditures made by cities and towns with MERA funds, nor does it monitor how well communities are achieving MERA's programmatic objectives. For example, DOE does not require cities and towns to submit information documenting how MERA funds are expended. Although each school district must file an annual financial report to DOE, this report is unaudited, and DOE does not perform any independent verification of this information to assess its accuracy and universal uniformity or comparability.

In its fiscal year 1997 budget, the state Legislature required DOE to provide it with various information. Specifically, Section 588 of this budget requires the Board of Education to submit a report by January 20, 1997, detailing the activities undertaken and the contracts and grants awarded, and the progress made in the following critical areas of education reform implementation: Curriculum Frameworks, Assessment, Massachusetts Education On-Line, Advanced Placement, Gifted and Talented, Portfolio Assessment, and Professional Standard for Teachers and Administrators. However, this report, which was submitted in February 1997, only provided the Legislature with various administrative information relative to contract and grant awards, and not with any qualitative information relative to the impact of MERA on the public school system.

Also, according to Section 79 of MERA, an Education Reform Review Commission was to be established by July 1, 1993 to monitor the effects of education reform within the Commonwealth. However, according to the Chairman of this commission, all of the commission members were not appointed until 1996, and the commission is essentially an unfunded oversight entity because no funds have been appropriated for its operation. Therefore, the Chairman stated, although the commission will continue to meet and perform certain

monitoring activities, it is unlikely that, without funding, it can effectively perform its mandated responsibilities.

Further, MERA contains a provision for student assessment tests to be administered to all fourth-, eighth-, and tenth-grade students. In accordance with the law, DOE's implementation plan requires it to develop and administer an annual student assessment system. Forty states, including Massachusetts, have adopted some form of assessment testing as part of their education reform. Although a part of DOE's implementation plan, the Massachusetts student assessment test program will not be in full operation until at least 1998, four years after the enactment of MERA. Furthermore, because no baseline testing was performed, the results of the assessment test when it is finally administered will provide little information regarding the effectiveness of MERA during its most critical years of implementation.

The absence of baseline measurements and monitoring mechanisms results in inadequate assurance that the state will be able to measure the impact of MERA on public education or propose changes to this legislation that may make it more effective. In addition, certain educational professionals have expressed concerns over the effectiveness of the proposed assessment testing. For example, Dr. Silber, Chairman of the State Board of Education, has stated that it is clearly not appropriate to test tenth-grade students on ninth-grade material and use these results when determining criteria for earning a high school diploma.

In contrast, many states involved in implementing education reform have the ability to measure the progress of their reform actions during their implementation. For example, the Commonwealth of Kentucky began implementing education reform in 1990. According to information we received from the Massachusetts Legislature and DOE officials, MERA was modeled in part after Kentucky's education reform efforts. However, in recognition of the

importance of benchmarking performance, Kentucky law required the administration of an interim testing program during the 1991-1992 school year to provide baseline data relative to student performance. Kentucky law also required the development of an annual performance-based assessment program no later than the 1995-1996 school year. The benchmarking process established by Kentucky allows policymakers to evaluate the effectiveness of the reform with the results from the first annual assessment in 1996.

In addition to Kentucky, many other states, including California, South Carolina, and Florida, that are initiating education reform have established baseline measurements in order to properly assess the effectiveness of their initiatives. DOE anticipates having assessment results in 1999. However, without a baseline, DOE will be unable to use these results to measure the progress made in achieving MERA's objectives.

Regarding this matter, DOE officials stated that the assessment testing process will be fair and that they will be able to measure the effectiveness of MERA using the results of the Massachusetts Education Assessment Program (MEAP) exams, which are currently administered in this state. However, according to other educational professionals, including officials from the Massachusetts Teachers Association (MTA) and DOE, the MEAP test is not the same as the new assessment test being developed. Specifically, MEAP scores do not assess individual performance, whereas the assessment test currently being developed by a consulting firm hired by DOE will be designed to test individual performances. Given these facts, we question DOE's assertion that MEAP scores can be used as a meaningful baseline measurement.

It should be noted that this lack of monitoring and assessment of outcomes also existed during prior education reform legislation (i.e., Chapter 188 of the Acts and Resolves of 1985). In fact, although approximately \$1.8 billion in additional funding to cities and towns was provided under this legislation,

DOE officials could not substantiate what effect these additional funds have had on the quality of public education.

C. No Evidence of Correlation between Funds Spent for Public Education and Student Performance: MERA's approach to helping public schools to implement reform is to provide additional funds through the Foundation Budget formula. While there is no question that MERA has benefitted many school systems that have been historically underfunded, there is no assurance that these additional funds will be used by all school systems in the most effective and efficient manner or for the purposes of meeting MERA's objectives.

A number of education professionals, such as Dr. Silber and Dr. William Bennett, have questioned the effectiveness of increased funding in improving student performance. Furthermore, our analysis, as well as studies done by other oversight agencies nationwide, indicate that there may be no direct correlation between funding and certain educational outcomes. For example, in 1994 the American Legislative Exchange Council (ALEC), an organization created in 1973 by a small group of Democratic and Republican state legislators, issued a report entitled Report Card on American Education 1994, which provides a state-by-state analysis of per-pupil expenditures, and performance indicators for public school students nationwide. According to the ALEC report, although per-pupil expenditures increased 56.6% between 1972-1973 and 1993-1994, during this period average Scholastic Aptitude Test (SAT) scores declined by 35 points. The report states, in part:

An analysis of the latest available student performance measures, compared with per pupil expenditures, average teacher salaries, and other education spending variables, indicates no direct or systematic relationship between spending and student performance.

In support of this conclusion, ALEC stated that none of the top 10 performing states relative to student performance were among the top 10 states in per-pupil expenditures.

In addition, the Kansas Legislative Division of Post Audit issued a performance audit report entitled, Analyzing the Relationships Between Funding Levels and the Quality of Education in Kansas School Districts. The purpose of the report was to:

- o Determine whether different levels of funding resulted in differences in the quality of education.
- o Identify factors not directly related to funding that may impact the quality of education.
- o Determine whether wealthier school districts expend more on education.

The Kansas study found that the "quality of education for districts with similar characteristics, as measured by students' test scores and their dropout and attendance rates, generally did not appear to be affected by differences in those districts' funding levels."

Finally, as part of our audit we conducted a correlation analysis between the amount each community expended per pupil according to the 1993-1994 integrated operations cost data published by DOE and the 1993 MEAP scores in reading and math in these communities. A correlation analysis, which measures the relationship between two sets of data, is commonly used to determine whether large values of one data set are associated with large values of the other data set. Using 1993-1994 per-pupil expenditures as one data set and 1993-1994 results from MEAP for tenth-grade students as the other data set, we were able to determine the strength of the relationship between these two variables. On a scale from 0 (no relationship) to 1.0 (full relationship), the relationship between math scores and funds spent per pupil was .43, whereas the relationship between funds spent per pupil and reading scores was .35.

Although a minimum level of funding is necessary in order to establish an appropriate infrastructure in a public educational system, our analysis seems to support similar studies that show that there is not always a significant

relationship between increased funding and improved educational outcomes.

Finally, we noted that there is an inverse relationship between nationwide SAT scores and per-pupil expenditures from 1960 through 1993. Per-pupil expenditures increased from \$1,867 in 1960 to \$5,749 in 1993 (1993 constant dollars) while SAT scores declined by 73 points during this same period.

Consequently, while MERA's approach of increasing funding to communities has undoubtedly helped many school districts, without adequate implementation, administration, close monitoring, and evaluation, it cannot be determined that this additional funding will ensure that significant positive educational outcomes are being achieved.

D. Major Initiatives of MERA Are Not Required and Have Not Been Fully Implemented: As previously noted, DOE's Education Reform Implementation Plan consists of 54 financial and programmatic objectives in which DOE incorporates all the requirements of MERA. These 54 objectives fall into the following four categories:

<u>Categories</u>	<u>Number of Objectives</u>
Guidance/Proposed Plan/Studies/Commissions/Amending Regulations	15
Administrative Actions or Changes	22
Funding	6
Academic Programs/Initiatives	<u>11</u>
Total	<u>54</u>

Although MERA and DOE's implementation plan require certain studies to be conducted and plans to be developed, some of the most significant changes to public education contained in MERA are optional. Specifically, the development and implementation of the Common Core of Learning (CCL), Curriculum Frameworks, Academic Standards, and Student Assessment Program are considered by DOE officials to be the heart of MERA's programmatic objectives. However, the adoption of the CCL, Curriculum Frameworks, Academic Standards, Vocational Standards, Dual Enrollment, and School Choice by

communities is not mandated by MERA or DOE regulations. Therefore, although the intent of MERA is to effect true and meaningful education reform within the Commonwealth, some of its most significant initiatives were not mandated and, therefore, may not be adopted by all the public school systems within the Commonwealth.

Also, each year DOE establishes a Foundation Budget for each school system, which establishes minimum spending levels in each budget category. According to DOE officials, these recommended spending levels are perceived to be minimal in terms of meeting MERA's objectives. However, although communities get their funds in accordance with this Foundation Budget, they are not required to expend these funds in accordance with these budgeted line items. By the year 2000, communities will be required to meet their total Foundation Budget expenditure amount but will not be required to meet the spending requirements of each budgeted line item category. For example, if a community receives a Foundation Budget of \$70 million, of which \$50 million is earmarked for staff and \$20 million for administrative expenses, as long as the school department expends this \$70 million, it is in compliance with MERA even if it spends \$10 million on staff and \$60 million on administrative expenses.

I. Common Core of Learning: As previously noted, DOE, in conjunction with state and educational professionals, developed CCL. This document, which cost over \$150,000 to develop, is to serve as a basis for what students should be taught in the Commonwealth and therefore is closely related to the development of the curriculum frameworks, student assessment process, and other aspects of MERA. However, our review of the CCL revealed that many of the goals detailed in the CCL are based on broad educational outcomes, some of which are essentially unmeasurable. For example, the CCL includes the following goals:

All students should:

- o Learn to resolve disagreements, reduce conflict, and prevent violence.
- o Accept responsibility for their own behavior and actions.
- o Use the arts to explore and express ideas, feelings, and beliefs.
- o Make careful observations and ask pertinent questions.
- o Treat others with respect and understand similarities and differences among people.
- o Work hard, persevere, and act with integrity.

It should also be noted that 37 of the 42 aspects of what a student should be learning according to the CCL were already part of the "Goals for Education in Massachusetts" promulgated by the Board of Education in 1987 (which were based on goals originally established in 1971). Therefore, while the development of the CCL appears to have been an effective public relations measure, the CCL was not significantly different from goals for students that already existed.

II. Academic Standards/Curriculum Frameworks: One of the primary recommendations within the 1982 "A Nation at Risk" report was that "schools should adopt more rigorous and measurable standards." MERA requires DOE to establish academic standards for the core subject of mathematics, science and technology, history and social studies, English, foreign languages, and arts by January 1, 1995. According to MERA, "the standards shall cover grades kindergarten through twelve and shall clearly set the skills, competency and knowledge expected to be possessed by all students at the conclusion of individual grades or clusters of grades." Additionally, before improvement in student learning can be measured under MERA, the curriculum frameworks describing the skills, knowledge, and standards of performance to be measured must be completed by DOE. According to MERA, DOE was required to develop

curriculum frameworks for mathematics, science and technology, history and social studies, English, and foreign languages no later than January 1, 1995. Moreover, DOE was also required to develop curriculum frameworks for the arts no later than January 1, 1996.

DOE submitted draft frameworks for all the required subjects to the State Board of Education in June 1995. However, as of November 1996, the board had not yet approved curriculum frameworks for English or history and social studies. Standards for English were not adopted until January 1997, leaving history and social studies. DOE officials did not comment on why the Board of Education had not yet approved all of these frameworks, or why those frameworks approved were not done so in a timely manner in order to be useful and provide sufficient detail to guide and inform educators within their respective disciplines. Teachers are expected to use the frameworks to ensure that they are teaching the established academic standards and preparing students for their assessment tests. Because the framework has not been completed, students may not be prepared to perform at their highest academic potential when these tests are administered.

Auditee's Response: In response to our audit report, DOE provided the following comments:

It is too early to tell if the increase in aid for public education will improve public education. There have not been weaknesses in the implementation of the law or in its administration. A substantial body of evidence exists from school districts [DOE provided reports from various school districts] to show that significant changes have been made which have improved the climate for student achievement. The draft's conclusion is premature, and it is based on an . . . assumption that test results should already show improvement. . . .

A general observation about this draft report is that it is based on an assumption. . . that we should be able to see measurable results in student achievement already, statewide, as a result of the first three years of Education Reform. The problem is that school reform results cannot be quantitatively measured statewide at this time. In some individual districts which have moved more quickly than others, 1996 and 1997 test scores may in fact offer some anecdotal evidence that Education Reform is beginning to work. But this was always envisioned as a seven year plan. It will take seven years to bring

all communities up to their foundation target for spending. The assumption in the law is that this target spending rate is a precondition for schools being able to provide the instruction and services to students that they need to achieve.

On the other hand, the inputs which will lead to greater student achievement can certainly be observed at this time: more funds being spent on instruction and curriculum, more teachers hired, class sizes reduced, school days and years lengthened, more time for core academic study, less unstructured time in schools, more programs for teacher professional development, new standards for evaluating teachers and administrators, regular meetings of parents and teachers in school councils, newer textbooks, and increased use of technology in and among schools.

Auditor's Reply: Contrary to DOE's statement, there clearly are weaknesses in the implementation and administration of MERA. DOE's response that, after four years and hundreds of millions of dollars being expended, "It is too early to tell if the increase in aid for public education will improve public education," underscores the problems with the implementation of this legislation (e.g., without baseline or milestone measurements) and its administration (e.g., no effective monitoring mechanisms). While DOE has received some anecdotal feedback from certain communities about improvements made as the result of these additional MERA funds, these reports, which are the results of individual community rather than systemic and universal efforts, are unverified and DOE has no way of assessing any system-wide effects MERA may have had on public education.

In contrast, as noted in our report, the state of Kentucky implemented education reform during 1990. During the 1991-92 school year, Kentucky administered an interim testing program made up of subject matter tests, performance events, and a writing portfolio that was administered to students in the fourth, eighth, and twelfth grade to provide a baseline. Kentucky then established thresholds for improvement for the schools and conducted subsequent testing beginning in the 1993-94 school year. This sequential testing provided Kentucky with timely and useful information/feedback on

whether schools were achieving these thresholds and on how well Kentucky's education reform initiative was working. In effect, the approach Kentucky utilized establishes a baseline and provides timely, systemwide, and meaningful feedback. This type of system, however, was not utilized by DOE relative to MERA.

As clearly stated in our report, we do not question that the additional funding provided under MERA helped many school districts fiscally. Our concern is that DOE has not, to date, had any effective mechanism to assess the extent to which these additional funds are achieving the desired educational outcomes of MERA. Our report is not based on an assumption that test results should have already shown improvement. Although it could be argued that, after four years and the investment of hundreds of millions of dollars, some educational outcome measures (e.g., test scores) should have shown some improvement, our concern is that DOE does not know what effect, if any, MERA is having on public education.

A prudent administrative approach would have included DOE's implementing effective monitoring and feedback mechanisms so that both it and other interested parties (e.g., the state Legislature) could assess the cost/benefit aspects of MERA and make informed judgments and decisions relative to its implementation. However, since no such mechanisms were ever developed and implemented by DOE, this information will not be available to assess the effects, if any, MERA is having on public education within the Commonwealth while potentially billions of additional tax dollars have been expended. Without such controls, we question DOE's ability to accurately assess the impact of MERA and its ability to make informed, appropriate decisions relative to its implementation.

Although it will take seven years to bring all communities up to their Foundation Budget spending levels, clearly some measurable milestones should

be reached within this seven-year timeframe that could have been monitored and evaluated by DOE if such controls had been implemented. Moreover, even after MERA's seven-year implementation plan is completed, DOE will still have no mechanisms in place to determine whether additional funds being provided to cities and towns under MERA are being expended in the most economical and efficient manner and in a manner consistent with the Legislature's intent.

In its response, DOE states that it has observed "inputs" that it "believes" will improve student achievement being utilized by school districts. However, such input information is either anecdotal or unverified. Moreover, input information is essentially useless unless it can be correlated with processes employed and outcomes achieved. Without such correlation, there is no way to determine whether these inputs are adequate and proper or that desired outcomes are being achieved in the most economical and efficient manner. There is no doubt that with additional funding some school systems will be able to enhance the quality of their educational inputs. However, the system as a whole must be monitored in order to assess whether positive outcomes systemwide are being achieved as a result of this legislation. The objective of MERA is to achieve outcomes, not to observe inputs.

Auditee's Response (Continued): Regarding our concern that the implementation of MERA lacked a systems approach, DOE provided the following comments:

The MBEA report took just such a systems approach. The Board of Education's 1991 report on distressed schools, cited in the McDuffy case, took this approach and influenced the writing of MERA. The October 1993 Education Reform Implementation Plan of DOE took this systems approach. The Department's five year master plan, adopted in March 1995 by the Board, took just such an approach. The Goals 2000 state improvement plan that we filed with the federal government in March 1995 took just such an approach. And the Partnerships Advancing Learning in Mathematics and Science initiative, a joint collaborative effort of the Department and the National Science Foundation which began in 1992 and strengthened under Education

Reform, has used a very detailed systemic approach to improve mathematics and science education in the commonwealth, with evidence of positive results in student achievement. . . .

Everything in the Act is about improving student achievement. While questions can be raised about whether enough documentation is currently required to meet the public's need to know what steps are being taken to achieve better student performance, the problem and goals are quite clear.

Auditor's Reply: Contrary to DOE's statement, the implementation and administration of MERA clearly lacked a systems approach. Key aspects of a systems approach to problem solving were not utilized by DOE. Specifically, unlike the state of Kentucky, Massachusetts did not use baselining (establishing baseline measurements) as a means of assessing the effectiveness of this reform initiative. Further, as mentioned throughout our report, no effective monitoring and feedback mechanisms were established by DOE. An effective monitoring/feedback process should have included DOE's identifying critical factors (e.g., test scores, dropout rates, number of graduates going on to four-year colleges) and comparing a baseline measure to any changes in these factors.

According to DOE officials, MERA was based on the 1991 MBAE report. In this report, the MBAE contends that the state must develop a framework or broad array of performance indicators in addition to test scores. However, to date, DOE has not accomplished this task. These measures would have provided DOE with the feedback necessary to make informed decisions about the reform initiative and, if necessary, to make recommendations and re-engineer the process. Given the enormous amount of additional funding being provided to communities by the Commonwealth through this legislation, it is unreasonable that such measures were not taken.

Auditee's Response (Continued): Regarding the development of academic standards and the fact that these and other provisions of MERA are not mandated, DOE provided the following comments:

Academic learning standards for mathematics, science/technology, world languages, the arts and comprehensive health were adopted in 1995 and are being used in schools. Academic learning standards for English Language Arts were adopted in January 1997 and are being used in schools. The academic learning standards for history and social studies will be adopted this spring. Further, the state testing program begins this month, on April 28, 1997, not 1999. We are testing 3rd graders in reading and 10th graders in math, science, English and social studies. The full state battery of customized tests begins in 1998, not 1999. Moreover, the MEAP tests were given in 1994 and 1996, providing useful information to review school curriculum. . . .

Academic standards in six of eight curriculum frameworks have been adopted. Second, it is these frameworks and the assessment system which are the heart of the programmatic objectives in MERA. The adoption of standards by the state is mandated in the Act. And, because the participation of all students in the testing systems is mandated by the Act, and these tests are based on the academic standards in the frameworks, these frameworks ipso facto become mandated guides for districts to use in developing their own local curriculum and for teachers to use in developing their own local lesson plans. Nearly all of the Act's most "meaningful initiatives," including the comprehensive assessment system for all students, the performance standards for teachers and principles of evaluation for administrators, the changes in student learning time, the required continuing education for all teachers under the five-year recertification program, the formation of school councils, and the elimination of the general track, are mandates for schools. Further, the statement that "the creation of curriculum frameworks and the development of academic standards have yet to be completed." . . . overlooks the fact that six of eight were completed in 1995, the seventh in January 1997, and the final one will be completed this spring.

Auditor's Reply: Our report clearly states that DOE has implemented standards for certain academic subjects. However, although MERA was enacted in 1993, DOE did not adopt the standards for English Language Arts until January 1997 and has yet to adopt standards for history and social studies. According to Section 29 of MERA, these standards must provide sufficient detail to guide the promulgation of student assessment instruments. Although, as noted in our report, DOE has hired a consultant to develop the student assessment test, it has yet to adopt and implement all the standards on which this assessment test will be based.

Clearly, all academic standards should have been adopted first in accordance with MERA, which required most of these academic standards to be

established by no later than January 1, 1995. Our concern is that, more than two years beyond this legislatively mandated date, all of the academic standards and curriculum frameworks have still not been established. Our report correctly states that the adoption of the Common Core of Learning, Curriculum Frameworks, Academic Standards, Vocational Standards, Dual Enrollment, and School Choice by Communities is not mandated by MERA or DOE regulations. Therefore, some of MERA's most significant initiatives were not mandated and may not have been adopted by all the public schools within the state.

Obviously, given the fact that standards and other key components of MERA have in at least one case taken four years and considerable resources to develop and are at the core of education reform, the adoption of these components, particularly the academic standards, should be mandated. Without such a mandate, there is an increased likelihood of school systems performing poorly on the new assessment test being developed as well as other areas.

Auditee's Response (Continued): Regarding the correlation of spending to educational outcomes and to the extent that the state should control public school expenditures, DOE provided the following comments:

First, [the report] states that "there is no direct correlation between the additional funding provided under MERA and the outcomes relative to its objectives." Second, it states that "As a result, school systems are able to use these funds in any way they deem necessary." . . . The funding is designed to provide equity across the state in terms of resources for schools, based on particular local demographics. The correlation is that without substantial state funding for the poorer communities, there could be no positive outcome in terms of results for students. The gap between rich and poor would grow, in violation of the SJC decision and in violation of the rights of students everywhere in Massachusetts to an equal educational opportunity. The second statement implies that local decision making on spending is an erroneous policy. . . . The tradition of this Commonwealth is to respect local autonomy. We do so, and will do so, unless evidence mounts in certain isolated cases that the local decision-making process has broken down to the detriment of students.

In addition, although four-fifths of every school district's budget has always been consumed by salaries and compensation for staff, both pre-Education Reform and since, spending targets have been set by the state for portion of the balance. For example, \$50 of the minimum aid per pupil is specified by the state to be used for professional development of the teaching staff. And 3 percent of the instructional costs incurred by the districts are to be used for teacher training. . . .

[With regard to] the correlation analysis between 1993-1994 per pupil spending and MEAP scores. . . . more current research shows a significant relationship between targeted spending and student achievement. . . .

It might be more appropriate to ask where our schools would be if this increased state spending had not occurred. As has been noted in several major progress reports on education reform by independent organizations, much of the infusion of new state aid has been used by districts to deal with rising enrollments, increased special education costs, restoration of programs cut during the fiscal crisis of the late 1980's, charter school and school choice tuitions, and increased student support services to deal with the more complex social and family factors which today's schools must face. Without the extra funding provided by the Education Reform Act, many of our public school districts, particularly those in our poorer communities, would be in terrible shape today, and the state would almost certainly have been found to be in violation of its constitutional mandate to provide an adequate level of support for public education as set forth in the McDuffy decision.

The second philosophical issued raised is to what degree the state should control local spending decisions on education. In your draft, you assert that the Department of Education should play a larger role in telling local school officials how to spend the money they receive from the state, in order to ensure that it is used to meet the objectives of the education reform act. Neither DOE nor the Board of Education has this power under the existing statute. Moreover. . . such micromanagement would be extremely unwise. Although the foundation budget is based on a typical spending profile, each of our 325 operating school systems faces its own set of local needs and conditions. In addition, the education reform law was clearly intended to give more, not less, flexibility to superintendents and principal to encourage them to find creative and innovative ways to improve our schools. The draft's suggestion would put DOE in the untenable position of having to second-guess each and every local spending decision. We prefer to put our efforts in to the development of the state-wide assessment system, which will allow us to evaluate local districts, local schools, classrooms, teachers and individual students by their results.

Auditor's Reply: Contrary to DOE's response, our report does not make assumptions about the lack of the correlation between spending and school performance. We acknowledge that MERA has undoubtedly benefited many school

systems who have been historically underfunded. As stated in our report, however, numerous studies have substantiated that in many cases there is very little direct correlation between the amount of money a school system spends and its educational outcomes. For example, in addition to those sources cited in our report, a 1994 report issued by the American Legislative Exchange Council (ALEC) concluded the following:

For the 1993-1994 school year, ten states led the nation in student performance: Iowa, Kansas, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Utah, Wisconsin and Wyoming (See Student Performance, pages 7-8). None of these top-performing states ranks among the top ten states in key measures of education spending.

- o None of the nation's ten top-performing states ranked among the top ten in per pupil education spending last year (1993-94). Most of these states spent less than the national average per pupil.
- o None of the top-performing states ranked among the top ten in average teacher salaries during 1993-94. Eight of these states paid their teachers salaries below the national average.
- o Nine of these states increased per pupil spending by less than the national average during the last 11 years (1982-83 to 1993-94).

Further, ALEC's 1995 report, entitled Report Card on American Education, stated that student achievement in our public schools remains stagnant even through spending continues to climb. This state-by-state analysis used three key indicators of student achievement based on the most recent available data for school year 1994-95. The results showed that MEAP reading test scores have declined, graduation rates have dropped, and college entrance exam scores have not demonstrated any meaningful gains. The Report Card also documents the rising costs of education. The last two Report Cards revealed dramatic increases in per-pupil spending, average teacher salaries, and the ratio of teacher to students that have occurred over the past two decades. The 1995 Report Card showed that per-pupil spending and average teacher salaries both rose 0.2 percent while the pupil-to-non-teacher ratio dropped 0.8 percent.

The conclusion of this state-by-state analysis was that there is no meaningful statistical correlation between spending and student achievement.

DOE states that the correlation between the additional funding provided by MERA is that without substantial state funding for the poorer communities, there could be no positive outcomes in terms of results for students. We acknowledge that the additional funding provided under MERA has undoubtedly helped many school districts. However, the effects of this additional funding should be closely monitored and evaluated in order to ensure that positive educational outcomes are being achieved. Our concern is that there is not always a direct correlation between additional funding and positive educational outcomes. Our report clearly acknowledges that additional funding, if expended prudently and in appropriate areas, may effect improvements in educational systems. However, there are inadequate controls (e.g., reasonable guidelines, loan policies, and procedures) over how these funds can be expended under MERA and no established procedures and plans to monitor these expenditures to ensure compliance.

Currently, a school district, with minimal limitations, can use funds in any manner deemed appropriate (e.g., additional administrative positions and expenses) and will not be in violation of this statute. This fact is not disputed by DOE. For an example, the OSA's audit of the Lawrence Public School System (No. 97-6003-9) identified hundreds of thousands of dollars in MERA funds being expended on items that DOE itself contends are not consistent with the legislative intent of MERA and noted that no formal mechanisms were in place to monitor and control this situation. Clearly, additional funds expended in specific areas may serve to enhance more positive educational outcomes. However, since MERA essentially places limited restrictions on how such additional funds must be spent, there is inadequate assurance that these additional funds will be expended in the most economical and efficient manner or in a manner that will effect any true education reform.

In this regard, our report does not state or even imply that communities should not make the decisions they deem appropriate relative to their school system. Rather, our concern is that there should be some mechanisms in place to ensure that the additional funding provided under MERA to these communities is spent in a manner consistent with its intent. Clearly, the Commonwealth has an obligation to the taxpayers to ensure that the billions of additional dollars that will be provided to communities under MERA are used to effect true and meaningful education reform. Although the Commonwealth can allow for flexibility, the public is entitled to accountability for how these funds are expended.

As noted in our report, DOE established a Foundation Budget for local school systems in order to distribute the additional MERA funds. According to DOE officials, this Foundation Budget represents the minimal expenditures communities should be expending in these areas. However, this budgetary process is perfunctory in that school districts are not obligated to spend these funds in accordance with these budgeted line item categories, and there are no mechanisms in place to prevent school systems from expending these funds in an inefficient or wasteful manner or for purposes other than to effect education reform. Moreover, DOE has no mechanisms in place to effectively monitor how expenditures are actually made by school districts.

We acknowledge that a significant amount of any school system funding is expended on compensation. However, this does not preclude expenditures of this type from being abused. For example, school systems, because of the lack of monitoring by DOE, could easily use MERA funds to create new and unnecessary administrative positions or to provide unreasonably high pay increases to noninstructional staff members. Although MERA established some spending requirements for a few items, such as professional development, DOE does not effectively monitor compliance with these requirements.

We acknowledge that the focus of MERA is to improve student achievement. However, as we have stated, there are numerous deficiencies in the manner by which DOE is attempting to achieve this outcome, including inadequate guidelines on how these funds are to be expended and no established baselines or effective monitoring and evaluation procedures to assess the effectiveness of this initiative. Because of these deficiencies, there is limited assurance that MERA will improve student achievement to its maximum possible potential or that these funds used for this purpose will be utilized in the most effective and efficient manner.

Auditee's Response (Continued): Regarding our concern over the fact that DOE is unable to demonstrate the impact, if any, that the approximately \$1.8 billion in funds provided under Chapter 188 has had on public education, DOE provided the following comments:

The statement, "DOE was not able to explain what impact the approximately \$1.8 billion in state funds provided to cities and towns. . . has had on improving the quality of public education in the Commonwealth" is. . . in error. [DOE provided examples of reports in which some school districts identified some improvements in their school system.]

Auditor's Reply: Despite being asked on several occasions, both during our audit and to date, DOE has not been able to document the impact, if any, of the approximately \$1.8 billion expended under Chapter 188 of the Acts and Resolves of 1985 has had on improving the overall quality of public education across the Commonwealth. DOE did provide examples of reports it received from some school districts in which school personnel describe various positive improvements and outcomes within the school system. However, this information was fragmented, anecdotal, and unsubstantiated. Further, DOE was unable to determine whether these reported improvements were the result of Chapter 188, MERA, or some other factor. Clearly, this is another case in which DOE did not use a systems approach (e.g., baselining and monitoring) to correlate the expenditure of these funds to verifiable educational outcomes.

Auditee's Response (Continued): Regarding the monitoring of MERA funds,

DOE provided the following comments:

The Department conducts a coordinated program review of many major school programs (special education, bilingual education, nutrition, Perkins Act, civil rights administration) in 50 districts a year. The End-of-Year report shows how districts spent funds by programmatic categories. For example, aggregating the data in that report shows that thousands of teachers have been rehired by districts since Education Reform, considerable money has been spent on new textbooks and technology, and the like.

We also need to bring to your attention the fact that the DOE monitors districts in their meeting the local minimum contribution required under the Education Reform law foundation budget. Last year, five districts lost state aid because they did not meet their minimum contribution. . . .

Letters were sent to all districts illustrating whether they were complying with the law. Approximately 50 districts were contacted and amended their budgets accordingly to comply with the law. That action -- DOE monitoring the reports, finding areas where the minimum requirement was not going to be met by the budget, and working with districts to modify their spending -- is a very important piece of what the DOE does to work with and support districts in meeting the requirements of spending contained in MERA. For FY 96 we sent letters to all districts and are currently working with districts to ensure FY 97 budgets are sufficient to meet NSS [net school spending]. . . .

[The report] further recommends that local districts segregate their state school aid on their accounting books. Because these funds are intended for the general operation of the schools, in conjunction with local dollars, requiring them to be segregated and accounted for separately would add significantly to the bookkeeping requirements at the local level without adding any significant value. . . .

Auditor's Reply: As stated in our report, DOE has not established any effective monitoring mechanism to assess the impact, if any, MERA is having in public education. For DOE in its response to represent that it in fact has effective monitoring mechanisms demonstrates that it does not have a clear understanding as to what constitutes an effective and efficient monitoring process. DOE's program reviews are done on a limited number of programs in a limited number of school districts each year. While this may give DOE some information on the adequacy of these programs, this fragmented information is not useful in assessing the overall impact of MERA.

Further, the year-end reports that DOE receives from school districts are unaudited and provide inadequate information on how MERA funds are being expended. Moreover, DOE does not effectively utilize the information that it receives in these reports. For example, during our audit of LPS we found that LPS was not expending the amount of funds required by MERA for such items as books and materials. Although this fact was evident based on our review of LPS's year-end reports, DOE was unaware of this fact.

In its response, DOE states that it monitors net school spending in school districts. This is only one small aspect of what DOE should be monitoring, is a relatively easy assessment, and requires only a review of each school department's bottom-line expenditure figures. This analysis, however, does not provide any information on the impact of MERA or the reasonableness and allowability of expenditures made by school departments. In effect, the monitoring activities being performed by DOE are inadequate and ineffective.

Our report does not specifically recommend that local districts segregate MERA funds from local funds used in the operation of schools. Rather, our report merely points out that school systems are not required to segregate these funds, which makes it difficult for DOE to monitor and therefore for any interested party to determine how these additional MERA funds are being expended.

Auditee's Response (Continued): Regarding test scores, student performance, and the use of past test scores administered in Massachusetts as a baseline measure for the new assessment test, DOE provided the following comments:

The draft. . .[does not] take into account the steps in test development that must be taken in order to prevent and withstand legal challenges to a state assessment program with high stakes (i.e., potential denial of high school diploma). Statewide testing took place in 1996 (MEAPS), will be expanded this year (1997) in more grades than those required under MERA (Iowa tests at grades 3 and 10), and will be administered fully based on the standards in the frameworks in 1998. This is in compliance with MERA, which states

that no earlier than 1998 will the state tests be administered tied to the frameworks. Also, test questions in the four core academic areas are being field-tested with students in 1997. This is crucial to ensure that the full test and subsequent high stakes will be based on measures which are reliable and valid. If the process by which frameworks, test development and test administration were not being followed in this deliberate fashion, MERA could be dismantled by a legal challenge. This is a lesson we have learned from the experience of other states. Without this careful planning, the first student whose diploma is denied because of failure to pass the state assessment will have a valid claim to overturn all of the state's work and investment in testing by way of challenge to the program in court. We cannot and will not risk this result. . . .

While "national SAT scores declined from 1960 to 1994," as the draft states, Massachusetts SAT scores released in 1996 showed the highest math scores in a decade and the highest verbal scores in seven years. Moreover, a record 80% of Massachusetts students took the SAT, the highest rate in the nation. The percentage has steadily risen (64% in 1986, 79% in 1991). Massachusetts participation rate is nearly double the national average (41%), and far above our neighbors (NY 73%, NH 70%, VT 70%, RI 69%, ME 68%). The reason the participation rate is important is that it means expectations are high for Massachusetts students. And the fact that more of our students take the test makes our results, compared to the nation, nothing short of remarkable. Our scores are higher than the national in verbal, and just below in math (although math trend is moving very well, with MA scores just seven points below the national average now versus 22 points below in 1987). In other states, a smaller percentage of students take the SAT and they are the cream of the crop. Here in MA, a broader cross-section takes the test, so our average scores should in fact be far lower than the national average. As the College Board stated in its 1996 release, "the great disparity in rate of participation at the national and state levels puts the state at a considerable disadvantage in these comparisons. . . given that fact, the Massachusetts average (for writing achievement) is surprisingly high when compared to the nation. . . ."

For another example, look at the NAEP results. . . . NAEP is administered by the federal government and provides the only measure of state by state comparisons. The 1996 NAEP scores, released February 1997, show that the MA scores in mathematics. . . put MA among the nine highest performing states for 4th grade, and the 11th highest for 8th grade. Our 8th grade scores increased a statistically significant five points in the period 1992 to 1996 (to 278, from 273). Also, the portion of our students who performed very well -- what NAEP calls "at or above proficient" -- outpaces the nation in 4th grade by four percentage points (24 versus 20) and in 8th grade by 5 points (28 versus 23). While our scores are still not good enough, to be sure, the trend is moving in the right direction.

Finally, the state's biennial testing program, the MEAP, showed results in 1996 with some significant improvements in certain areas (grade 4 reading and science, and grade 8 reading) over an eight-year period, and no declines over the shorter term (1994 to 1996). The results are mixed overall, but these specific areas bear noting. . . .

Regarding baseline testing measures, the SAT, the NAEP, the Iowa 3rd grade reading test, and the standardized tests that are widely used by school districts, all will provide further baseline comparisons in 1997 and 1998, well before 1999. Also, the Iowa battery being administered to 10th graders statewide this month will allow a snapshot of nationally normal comparisons.

The issue of baseline measures is not limited to student test scores. Dropout rates are also a useful measure of the ability of schools to hold and educate students. In fact, the state dropout rate has shown continuing improvement since MERA, declining from 3.7% in 1994 to 3.6% in 1995 to 3.4% in 1996. In addition, the statement that MEAP scores can be used as a meaningful baseline is entirely accurate, looking at MEAP scores as a measure of achievement by schools and districts (not of individual students).

In addition, nationally norm-referenced measures used to assess students are conducted by every local school district, both concurrent with the mandated state test grade levels and interspersed between those grades. These test measures give baseline and trend data by district.

Regarding performance standards, the Board of Education and Commissioner are scheduled to discuss their development in April 1997.

Auditor's Reply: In its response, DOE points to several test score results as being indicative of how public education is improving in Massachusetts. In this regard, we acknowledge that the average SAT math score for 1996 did improve. However, the 1996 average math score of 504 was up only two points from the 502 average math score in 1995 and four points from the average math test score for Massachusetts during 1994. In effect, a far less than 1% increase in average test scores in this area since 1994 does not indicate significant improvement in this area. Also, these math scores, although slightly higher, still placed Massachusetts in the bottom 50% of test score results in this area.

DOE points out that Massachusetts has one of the highest participation rates for taking this exam and contends that this high level of participation may have adversely effected the state's average test scores on this exam. However, it is clearly the profiles of students who take the exam and not the number that would have the ability to skew test scores. DOE did provide us with documentation that indicated that the profile of students who took the

last SAT exams in Iowa included a higher percentage of students in higher academic percentiles. Nevertheless, the implication in DOE's response that only "cream of the crop" students in all other states take the SAT tests is both derogatory and spurious.

Regarding the NAEP scores DOE cites in its response, it should be noted that there was very little linear relationship in the results of these test scores. Specifically, not all states take these exams, the exams are usually given in different grades each time they are administered, and the exams are given only to a sample of students in each participating state. Moreover, we disagree with DOE that a 1.8% increase between 1992 and 1996 in eighth-grade math scores represents a "significant" increase.

Contrary to what DOE states, our report correctly reports that no baseline measurements were established during the implementation of MERA. School districts administer various tests, including achievement tests, to their students. However, not all school districts uniformly administer the same test throughout the state. Also, according to DOE and other officials with whom we spoke, the MEAP test cannot be used to assess an individual student's performance. Like the new tests being developed, MEAP scores assess the performance of school districts and not the performance of individual students. Therefore, although there are fragmented test results that DOE can collect, none of these results can be used as a reasonable baseline measurement for the new assessment test that is being developed. Consequently, there is no system-wide basis for comparison.

Also, the new test being developed will test students' knowledge of the curriculum being taught in Massachusetts schools. In contrast, achievement tests currently being administered in some school districts (e.g., the Iowa test) test a student's general knowledge in certain academic areas. Clearly, none of these test results can be used as a baseline measure for the impact of

MERA. DOE's contention that these prior test results can be used as a reasonable baseline measure is inaccurate and misleading, since true baseline measures will not be available until years after the implementation of MERA.

2. DOE Has Not Fully Complied with the Legislative Intent of MERA Relative to Time and Learning

MERA requires the Board of Education to prepare a plan to extend the time during which students attend schools to reflect current norms in other industrialized nations. In response to this requirement, DOE created the Massachusetts Commission on Time and Learning to develop this plan. In September 1994, the commission issued a report that recommended amendments to DOE's existing time and learning regulations. These recommendations redefined what constituted instructional hours and increased the amount of instructional time students would receive in core subjects (e.g., math, science). However, according to DOE officials, due to opposition, in part from non-core-subject teachers (e.g., physical education and home economics) who felt that their subjects may be in jeopardy if the amount of instructional time in subjects increased without the school day being extended, these recommendations were never implemented. Therefore, the requirement of this section of MERA to change the time and learning structure of our public school system is not being met.

Section 80 of MERA states that the Board of Education "shall prepare a plan to extend the time during which students attend school to reflect prevailing norms in advanced industrial countries. . . . Said plan shall contain a practical, but timely, proposal for implementation and detail all associated costs." The Massachusetts Commission on Time and Learning was created by DOE to prepare the plan required by the law and to evaluate and define the amount of instructional time within Massachusetts schools.

In May 1994, a National Commission on Time and Learning issued a report entitled "Prisoners of Time," which revealed that American schools provide at least 50% less instructional time during the final four years of schooling than German, French, and Japanese schools. The commission defined instructional time as time devoted to the following core subjects: native language and literature, mathematics, science, history, civics, geography, the arts, and foreign languages.

In September 1994, the Massachusetts Commission on Time and Learning issued a report entitled "Time For a Change," which made a series of recommendations relative to instructional time in Massachusetts schools and DOE's existing time and learning regulations. These recommendations were incorporated into proposed amendments to the school year and school day regulations (603 Code of Massachusetts Regulations 27.00) promulgated by DOE and, if adopted, would have a significant impact on the structure of school instruction time. Below is a synopsis of these proposed changes;

- o All students will be provided a minimum amount of time per day (5 hours for elementary students and 5.5 hours for secondary students) of instruction in the core subjects of mathematics, science and technology, history and social studies, English, foreign languages, the arts, and approved vocational technical courses.
- o All other instruction and all school services and activities will be provided in time beyond the minimum required time for core subject instruction.
- o The school year will include at least 180 school days that meet the instructional hours requirement described above. Schools may schedule additional days on which less instructional time will be provided or only certain grades are in attendance, but these will be in addition to the 180 full instructional days required by the regulation.
- o All school districts will schedule at least 185 full instructional school days per year to ensure that time lost due to inclement weather or other school day disruptions will not result in less than 180 full instructional school days per year.
- o Local school districts will have the option of ending the instructional school year for graduating seniors up to five days prior to graduation only if their graduation is scheduled to occur within a week of the last scheduled day of school.

The most significant provision within these recommendations pertains to the definition of "instructional hours." The old regulations required the same minimum instructional hours for students, (5 hours for elementary students and 5.5 hours for high school students) as the commission's recommendations. However, under the old regulations, instructional hours were defined to include any "regularly scheduled teaching-learning activities, but shall not include lunch periods." Consequently, activities such as study periods, physical education, health education, assemblies, and other services could be included as instructional hours. The proposed regulations redefine instructional hours to include only those core subjects identified by the commission and further states that all other school activity must be scheduled independent of this instructional time. Based on this definition, the commission projected that schools would need to operate an average of 7 hours (elementary school) or 7.5 hours (high school) per day.

The other significant provision within the commission's recommendations pertains to early release days. The old regulations allowed early release days to count towards the 180 school day requirement. The commission recommended that these days not count toward the 180-day requirement. As a result, the school year would consist of 180 full days of school, and any early release days would be in addition to the 180 days.

The commission's recommendations were consistent with the requirements of MERA and would address the problems identified in the national commission's report. However, the regulations, which were actually promulgated by DOE in December 1994, made minimal changes to the existing regulations and did not address all the recommendations made by the commission.

According to the Executive Director of Educational Improvement for DOE, the Board of Education encountered a great deal of resistance, in part from non-core subject teachers (e.g., health, physical education, home economics)

who felt that their jobs may be eliminated if the amount of instruction time devoted to core subjects was increased without extending the school day. As a result, DOE amended the proposed definition of instruction time to include activities in addition to the core subjects as defined by the commission.

In addition, as a result of similar opposition from educators, the proposed amendment relative to early release days was not adopted into regulation. The adopted regulations make no reference to early release days and, according to DOE, early release days may be factored into the 900-990 hour requirement.

Consequently, although MERA required the board to develop a plan to extend attendance time for students to reflect prevailing norms in other industrialized countries, this plan was not accomplished. In fact, the only significant changes to DOE's original regulations were as follows:

- o School districts are required to schedule 185 days of school to ensure that time lost due to inclement weather or other disruptions will not result in less than the 180-day requirement. The old regulations recommended the scheduling of 185 days but did not require it.
- o The old regulations allowed graduating seniors to be dismissed up to 22 days before the regular closing date of school. The adopted regulations reduced this to 12 days prior to the regular closing date of school.

Regarding this matter, a DOE official stated that, although the length of the school day was not changed, communities and DOE would take measures to be in compliance with the law. However, this official was unable to tell us what specific measures were contemplated and how DOE would be able to monitor whether the law was being met by the communities.

Auditee's Response: In response to this issue, the Commissioner of DOE provided the following comments:

The requirement of MERA to change the structure of time and learning in our public schools has been met. Students beginning this September will each receive at least 900 or 990 hours of structured learning time (900 if in elementary school, 990 if in secondary school). In nearly all districts, this is a dramatic increase in the time allotted for structured learning. Some districts had earlier

reported that some students were in high school taking just two or three academic courses, with four or five free periods. This will no longer be possible under the time and learning regulations. In addition, the minimum hours of structured learning time per year allows early release days for teachers, without undercutting the hours of learning time students receive. This is a very important distinction which is often overlooked. The net effect is to preserve quality instructional time for students while allowing districts to schedule time for teachers to work together to strengthen their own professional development and planning curriculum and instructional changes with other teachers.

Also, time students spend at breakfast and lunch, passing between classes, in homeroom, at recess, and in non-directed "study" periods does not count toward the 900 or 990 hour minimum requirement, so in fact these hours are serious hours for academic study. All other hours are above and beyond that minimum [DOE provided a list of schools that have extended either the number of instructional hours or the number of days in their school year]. . . .

Required time spent on core academic subjects has in fact increased in our schools as a direct result of the Education Reform Act and the regulations on time and learning adopted in 1994. Districts are changing their practices. Prior to this, schools were open for learning for 5 or 5 1/2 hours a day, 180 days a year, but the state never looked beneath these number to ensure that structured learning in core areas was actually being received by all students. Now we are doing this, and local school districts are extending structured learning time for students accordingly. . . .

The commission recommended minimum time per day in core areas; the regulations provide for that as well as time for subjects defined in the Common Core and approved by a local community. The net effect of this regulation, coupled importantly with the state assessment in the core academic areas, is to substantially increase core academic learning time for all students in all schools. The commission recommended 180 full instructional days with five hours per day for elementary students and five and a half hours a day for secondary students. The regulation adopted provides for the same minimum number of hours of learning time as the commission recommended, but allows local flexibility in scheduling some days above the five or five and a half hours so that other days could provide fewer hours for students and more hours for teacher planning time. The commission recommended that schools schedule a 185 day year. The commission recommended tightening the early release for high school seniors from the former option of 22 days prior to graduation, to five days; the regulation did tighten the standard by reducing the early option from 22 days to 12. . . .

All districts must submit a report detailing how they will meet the full state requirements for time and learning which take effect this September. A few districts have stated that they cannot meet the requirements. DOE is "able to monitor" the delivery of instructional time. . . . The reports filed by the superintendents are submitted by the districts after they have planned and negotiated and scheduled their students for this standard. Also, we have a problem resolution

system in place in which the DOE receives complaints from parents, teachers, students, and others who allege violations of state or federal law. . . .

The recommendation that the Board "amend its regulations to extend the time during which students attend school to reflect prevailing norms" is quite distant from reality. In Japan, the length of the school year is well over 200 days. For the Board to amend its regulations to "require" this school year would impose a massive unfunded mandate on districts. It would also come to loggerheads with the collective bargaining statute. On the other hand, ensuring that the hours within each school day and year contain structured learning time for all students -- which is what the regulations accomplish -- takes a much more serious and effective view of the relation between time and learning.

Auditor's Reply: Contrary to DOE's response, the regulations promulgated by DOE relative to time and learning do not meet the requirements of MERA. As stated in our report, Section 80 of MERA states that the Board of Education "shall prepare a plan to extend the time during which students attend school to reflect prevailing norms in advanced industrialized countries," which would involve either increasing the number of days in the school year or the number of hours in a school day. Various studies show that students in public schools in Massachusetts spend far less time in terms of days (180) in school as do students in other countries such as Japan (243 days) and Germany (240 days).

Additionally, several reports we reviewed indicated that many of the other industrialized countries provide many more instructional hours in core academic subjects. For example, according to one report, in the final four years of schooling, United States students are required to spend a total of only 1,460 hours on core academic subjects, which is less than half of the time spent by students in other industrialized nations such as Germany (3,528 hours), France (3,280 hours), and Japan (3,170 hours). DOE's original regulations (promulgated during the 1980s) and current regulations require the same 900 to 990 hours of structured learning time. Therefore, there has been no increase in the amount of time students are required to spend in school.

As stated in our report, the Commission on Time and Learning recommended that students be provided 5 to 5.5 hours of instruction in the core subjects of mathematics, science, technology, history, social studies, English, foreign languages, the arts, and approved vocational/technical courses. This proposed change was more consistent with the requirements of MERA. The original regulations proposed by DOE redefined instructional hours to include only those core subjects identified by the commission and further stated that all other school activities must be scheduled independent of instructional time. Based on this definition, the commission projected that schools would need to operate an average of 7 hours (elementary school) or 7.5 hours (high school) per day. However, DOE's final regulations modified the definition of instructional time to include anything that falls within the Common Core of Learning (CCL). As noted in our report, because the CCL is a broad-based guide, virtually any activity could be interpreted as being part of the CCL. For example, some of the guidelines specified in the CCL include:

- o Assert responsibility for one's own behavior and action.
- o Work hard, persevere, and act with integrity.

Consequently, DOE's new regulations make minimal changes to the time and learning requirements it established during the 1980s and clearly do not meet the requirements of MERA. Moreover, it should be noted that, in its final report dated November 1995, the commission made the following recommendation relative to the structure of the school year.

Move toward lengthening the school year to 200 days. The Board of Education should promote policies and funding to make possible 190 days for students and 10 full days for teacher planning, professional development, and collaboration. The Legislature and the Executive Branch should support an appropriation for incentive funding to realize this recommendation.

Contrary to what DOE states, our recommendation that DOE amend its regulations to extend the time during which students attend school to reflect

prevailing norms in other industrialized nation's is not "quite distant from reality." To the contrary, it is completely consistent with what the MBE and the commission recommended and what is required under MERA. Clearly, in order to effect true education reform and comply with the requirements of this statute, DOE should take measures to comply with the law and ensure that public school students receive more instructional time in core academic subjects in order to be competitive in our global economy.

In its report dated September 1994, the Commission on Time and Learning concluded that the length of the school day could be extended with no extra costs to school districts by stating, in part:

We recognize that this sharp focus on the academic time means that other categories of school time, e.g., general instruction (for example, health and physical education) and additional, non-instructional programs and services, such as lunch, recess, passing time, and study halls, will require some extension of the average school day. We believe that such extensions are necessary and can be managed with the assistance of the foundation budget at little or no extra cost to school districts. In particular, we recommend the utilization of flexible and differentiated teacher scheduling. We recommend technical assistance to school districts, so that each school community participates in shaping an effective schedule for providing every student his/her full share of core and general instructional time as well as an adequate share of other programs and services. In the event that there are any additional expenses associated with taking such measures, we believe that this would be an appropriate use of the additional funds being provided under MERA.

CONCLUSIONS AND RECOMMENDATIONS

Society's expectations of public education has dramatically changed from not only focusing on traditional academic disciplines but also ensuring equal opportunity education. However, according to some educational professionals with whom we spoke, teaching methods remained relatively stagnant because, in many cases, educational systems did not devote the necessary resources to effectively implement the changes and develop the infrastructure necessary to keep public education in a position where it could continue to effectively meet both the academic and social needs of students and the economic needs of the workplace.

As a result, individuals concerned with the quality of public education point to various statistics and outcome measures as being indicative of the decline in public education. Such statistics and measures include declining average Scholastic Aptitude Test (SAT) scores and the fact that, although the United States spends more per capita on education than any of the world's seven largest industrialized nations, in 1994 it ranked seventh in average math scores and sixth in average science scores. Representatives of the business community have also publicly expressed their concerns over the quality of individuals entering the workforce from public high schools.

In response to these concerns and criticisms, some educators argue that these declining outcome measures do not necessarily indicate that the average public school students are learning less today than they did 20 years ago. Rather, these educators believe that, although the amount of information known by the average student relative to testing data on standardized tests may be less and result in lower test scores, in fact, the average public school student today possesses more knowledge in other areas (e.g., computers) than the average student of a decade ago, which is not tested or reflected in these exams.

In response to growing concern over the quality of public education, the state Legislature has enacted legislation aimed at reforming public education in the Commonwealth that provided additional funding to cities and towns to be used for educational purposes. In particular, MERA makes significant progress toward ensuring that each public school system has adequate resources and, unlike prior legislation, requires the establishment of academic standards. MERA has undoubtedly provided many school systems with much needed funds to allow them to improve the quality of education within the communities. However, providing large amounts of untargeted funds without establishing effective monitoring mechanisms, as is being done under DOE's implementation of MERA, may not be in the best interest of the students or taxpayers of Massachusetts.

A well-educated public is one of the greatest assets a society can possess. Therefore, it is prudent to continually monitor and attempt to improve our public education system. Some advocates of education reform believe that the way to improve public education in Massachusetts is to simply replicate the educational systems used in many other industrialized nations. These systems, according to certain outcome measures, produce students who appear to be more proficient in the knowledge of core subjects (e.g., math and sciences). In contrast, other educational professionals believe that these other educational models should not be replicated, contending that our educational system is in many respects superior to these other systems in that it facilitates creativity and social development.

Providing more funding for education, as was done under the two most recent education reform laws, helped provide better educational opportunities for students in public schools. This additional funding allowed cities and towns to try new initiatives and provided more funds for capitalization to those communities who were below an acceptable maintenance level. However,

consideration should be given that any additional funds provided through education reform legislation should not be discretionary in nature but rather should be directed toward specific tasks associated with the re-engineering of our public educational system. School districts should be held accountable not only for ensuring that these funds are expended for their intended purpose but also for achieving the outcomes required by the legislation. Finally, any reform process should be adequately controlled and include, at a minimum, baseline measurements and monitoring and evaluating mechanisms to ensure that prompt assessment and effective re-engineering of the process can take place, and performance standards that are attainable but exact maximum performance from students and educators.

In order to ensure that state and other funds provided for the purpose of education reform are expended in the most effective and efficient manner and for their intended purpose, DOE in conjunction with the state Legislature should:

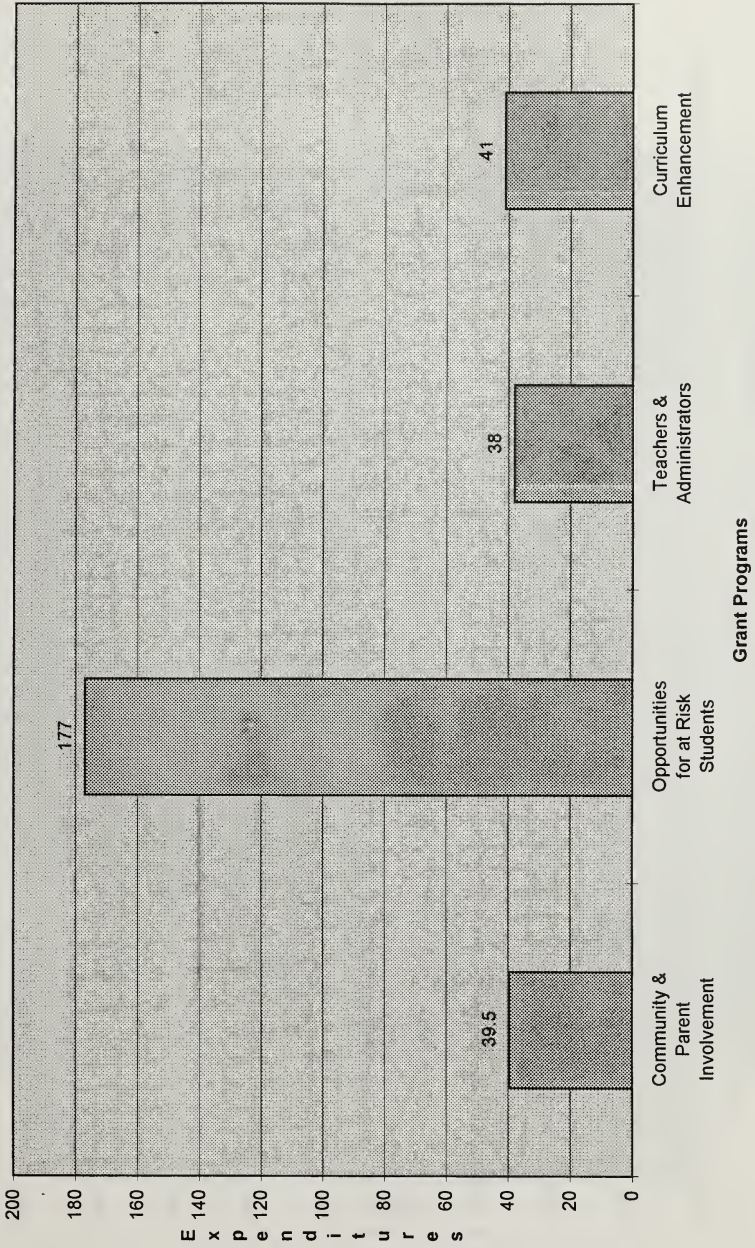
- o Consider amending DOE regulations to require school systems to expend the funds they receive through their Foundation Budgets in accordance with the budgeted expense line items established in these budgets. According to DOE officials, the budgeted line items in each school districts Foundation Budget represent the minimal amount of funds which should be expended by these districts in order to affect reform. The financial objectives of any education reform act should specifically support programmatic objectives within the Act. If DOE wants to allow school systems some flexibility, they can allow school districts to shift costs between line items up to a maximum amount (e.g., 10% to 20%). However, DOE should require schools that want to shift funds between budgeted line items in excess of this amount to file a budget amendment for DOE's review and approval.
- o Establish monitoring and evaluating mechanisms to ensure greater accountability for the outcomes desired by MERA. For example, DOE should establish effective systems to monitor expenditures made by cities and towns from funds provided by MERA to ensure that these funds are being expended in areas that will effect true education reform (i.e., in accordance with the Foundation Budget). Also, DOE should establish mechanisms in addition to standardized testing to evaluate in relative terms, the performance of each school district.
- o Amend its regulations, as required by MERA, to extend the time during which students attend school to reflect prevailing norms in other

advanced industrialized countries. If DOE believes that it is not feasible to make such an amendment, it should formally explain to the Legislature why this is so and seek to amend Section 80 of MERA that requires the change in time and learning.

- o Consider making the adoption of certain key aspects of MERA (e.g., academic standards and curriculum frameworks) mandatory for local school districts. Such a measure would serve to ensure that classroom instruction within public schools in the Commonwealth is consistent with the intent of MERA and uniform throughout the Commonwealth. DOE should also establish specific sanctions for noncompliance with these aspects as well as all fiscal requirements for MERA funds.

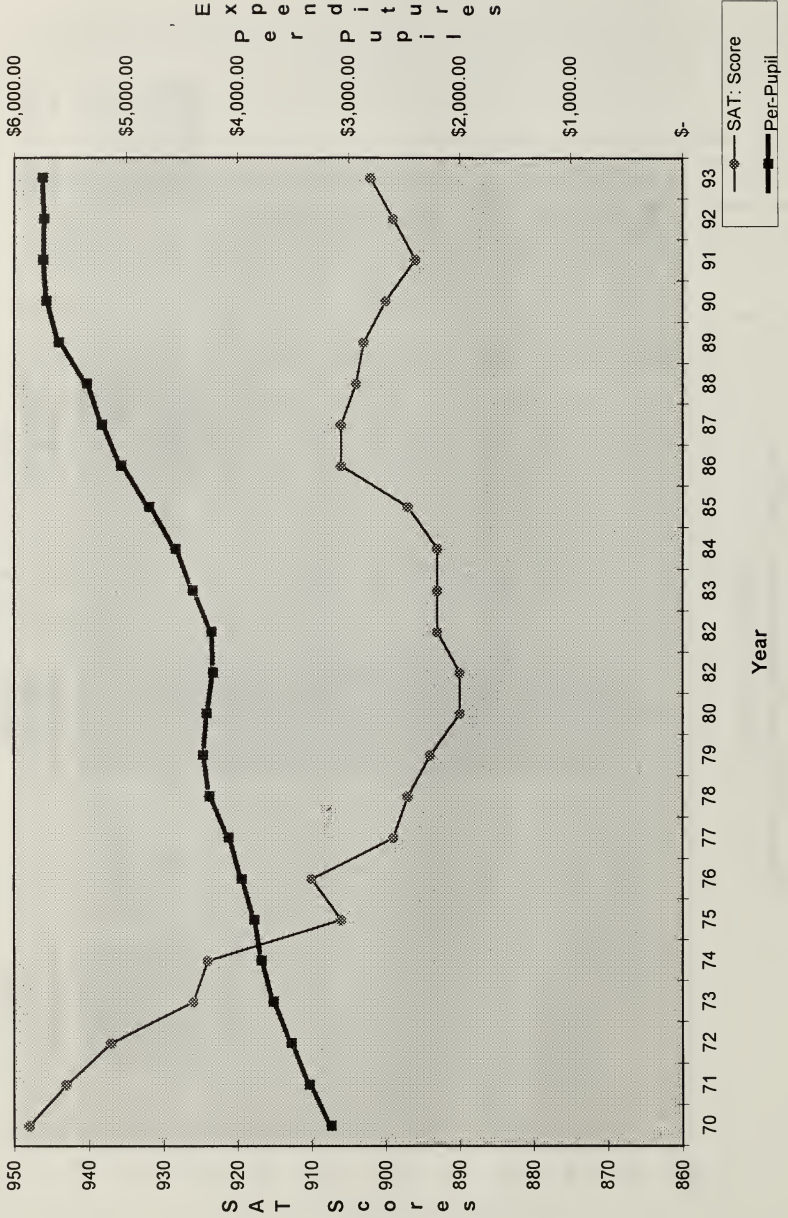
In addition, the State Education Reform Review Commission should continue to seek the resources it needs to effectively carry out its responsibilities of monitoring the effectiveness of MERA. The commission should routinely provide reports to DOE and the state Legislature relative to this issue. At a minimum, these reports should detail the achievement of specific outcome measures in each school district and should be used by these entities to evaluate the effectiveness of MERA and determine whether this legislation should be amended.

APPENDIX A
Chapter 188 Grant Expenditures: 1986-1993
(in millions of dollars)



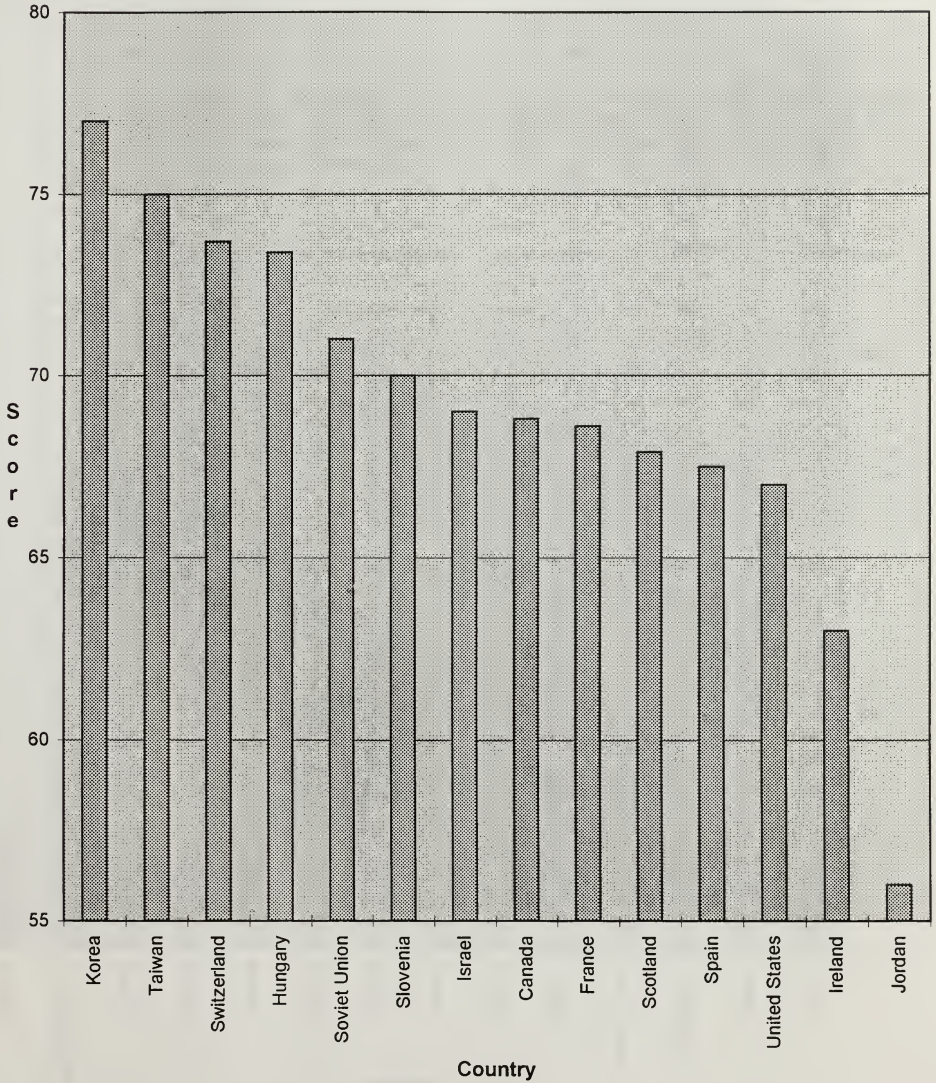
APPENDIX A (continued)

National SAT Scores Vs. National Per-Pupil Expenditures in Constant 1993 Dollars
1970-1993

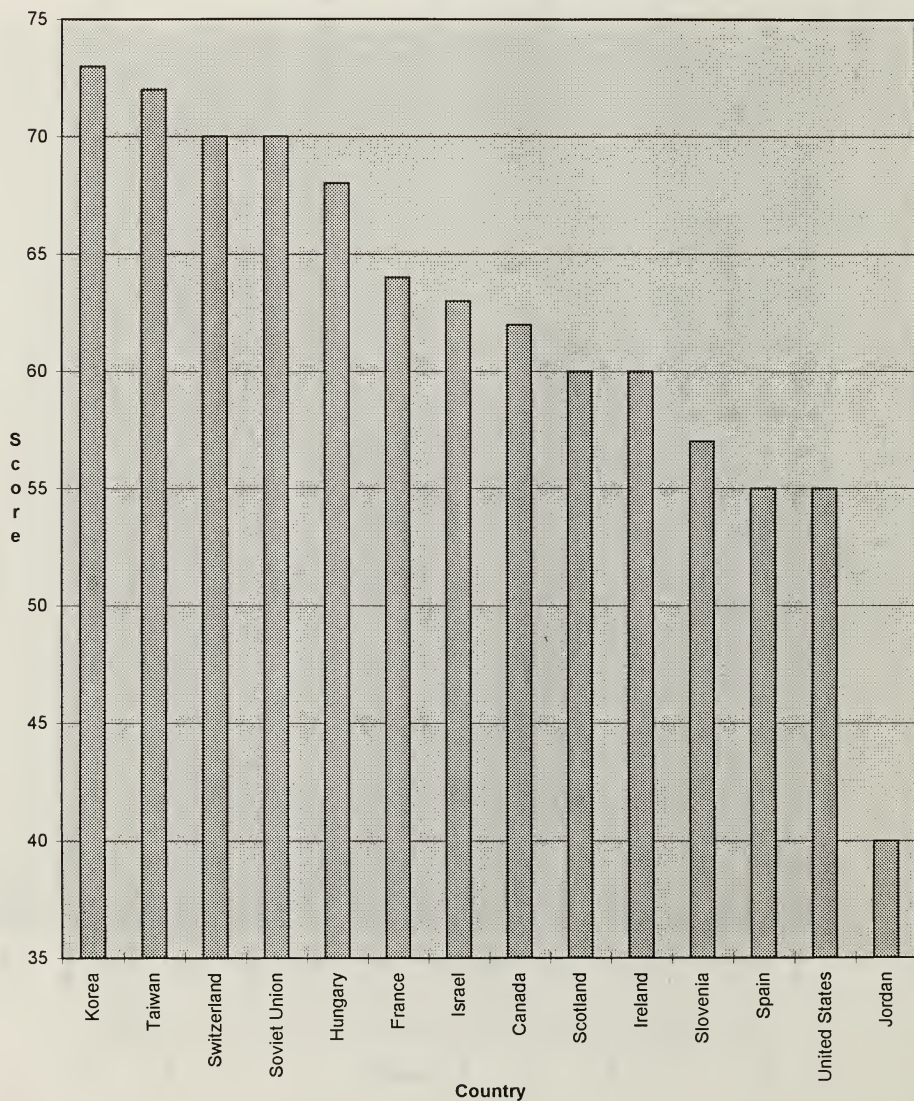


APPENDIX A (continued)

**International Comparison of 1991
Science Test Scores for 13-Year-Olds**



APPENDIX A (continued)

International Comparison of 1991 Math Test Scores for 13-Year-Olds

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APPENDIX B
ORGANIZATIONS CONTACTED DURING THE AUDIT

The Massachusetts Department of Education
Malden Corporate Center
350 Main Street
Malden, Massachusetts 02148-5023

The Massachusetts Board of Education
Malden Corporate Center
350 Main Street
Malden, Massachusetts 02148-5023

The U.S. Department of Education
J.W. McCormack Building, Rm 222
Federal Post Office and Court House
Boston, Massachusetts 02109-4557
(617) 223-9662

Massachusetts Business Alliance for Education
M.B.A.E. Administrative Offices
405 Grove Street
Worcester, Massachusetts 01605
(508) 754-9425

The Legislative Committee on Education
The Commonwealth of Massachusetts
House of Representatives
Room 473 G, State House
Boston, Massachusetts 02133-1054
(617) 722-2070

Massachusetts American Federation of Teachers
38 Chauncy Street
Suite 402
Boston, Massachusetts 02111
(617) 423-3342

The Massachusetts Teachers Association
20 Ashburton Place
Boston, Massachusetts 02108
(617) 742-7950

Mass Insight
1030 Massachusetts Avenue
Cambridge, Massachusetts 02138
(617) 492-0580

The Massachusetts Taxpayers Foundation, Inc.
24 Province Street
Boston, Massachusetts 02108-5105
(617) 720-1000

APPENDIX C

School Systems Surveyed

<u>Town</u>	<u>Town</u>
Abington	Newburyport*
Andover*	Northampton*
Ashland	Northampton/Smith*
Avon	Northborough*
Ayer	Norton
Bellingham	North Reading
Beverly	Norwood
Bolton	Peabody*
Bourne*	Petersham
Boylston	Pittsfield
Brockton	Randolph*
Brookline	Raynham*
Burlington*	Revere*
Chatham*	Rochester
Clinton*	Scituate
Dalton*	Shelbourne Falls
Dedham	Shirley*
East Bridgewater	Somerset*
Fall River	South Dartmouth
Feeding Hills	South Deerfield*
Foxboro*	South Easton*
Georgetown*	Southwick*
Grafton*	South Yarmouth
Greenfield	Stoughton
Harvard	Swansee
Holbrook*	Townsend
Hudson*	Tyngsborough
Hull*	Upton*
Huntington*	Uxbridge
Hyannis	Wakefield*
Lawrence*	Warren*
Lawrence Charter*	Webster
Lee	Wellesley*
Lexington*	Westminster*
Ludlow*	West Newbury*
Mashpee	Weston*
Millbury*	Whitman
Mt. Washington*	Wilbraham*
Nantucket*	Williamstown*
Natick*	Woburn*
Needham*	Wrentham
New Bedford*	Watertown*

* Did not respond

APPENDIX D

Description of DOE's Objectives Relative to MERA

<u>Activity No.</u>	<u>Activity Title</u>
<u>Strategic Goal I: Establish New Standards and Programs for Students That Ensure High Achievement</u>	
I-1	Establish the Massachusetts Common Core of Learning
I-2	Develop Curriculum Frameworks
I-3	Set Academic Standards for All Students
I-4	Develop and Administer Annual Student Assessment System
I-5	Evaluate and Define Instructional Time and Prepare a Plan to Extend School Day and/or Year
I-6	Eliminate the General Track
I-7	Implement Standards and New Program Initiatives for Vocational Education
I-8	Develop Comprehensive System for Adult Basic Ed. & Literacy
I-9	Ensure a Safe School Environment
I-10	Study the Feasibility of Reg. Boarding Schools and Promote Educational Alternatives for Chronically Disruptive Students
I-11	Staff the Governor's Commission on Early Childhood
I-12	Establish a Demonstration Project to Assess Outreach/Education Programs for Parents of Young Children
I-13	Establish a Comprehensive Health Education and Human Services Grant Program
I-14	Prepare a Plan of Comprehensive Child and Family Services
I-15	Staff the Governor's Commission on Bilingual Education
I-16	Conduct a Comprehensive Study of Special Education
I-17	Administer a Program to Allow High School Students to Enroll in Public Higher Education
<u>Strategic Goal II: Administer a Fair and Equitable System of School Finance</u>	
II-18	Administer Foundation Budget Program
II-19	Develop Regulations and Administer Local School Spending Waivers

APPENDIX D (Continued)

<u>Activity No.</u>	<u>Activity Title</u>
II-20	Administer School Choice Participation and Reimbursement Program
II-21	Convene Working Committee to Devise and Recommend Improved Adult Basic Ed. Funding Mechanisms
II-22	Establish Policy to Ensure Districts Distribute Funding Equitably among Schools
	<u>Strategic Goal III: Work With School District to Create a Governance Structure That Encourages Innovation and Accountability</u>
III-23	Gather Detailed Information from School Districts
III-24	Adopt a New System for Evaluating Schools and Districts Annually
III-25	Publish Profiles of All Public Schools and Districts and Publicize Successful Models
III-26	Establish Parent Information Systems for School Choice
III-27	Develop Process and Regulations to Identify, Assist, and Intervene in Underperforming Schools, Districts, and Municipalities
III-28	Oversee the Establishment and Operation of Charter Schools
III-29	Promote the Implementation of School Councils and Other Forms of School-Based Management
III-30	Improve the Management and Efficiency of School Districts and Encourage the Adoption of New Reg. Dist. and Collaboratives
III-31	Update and Reorganize Advisory Councils
III-32	Promulgate Regulations to Designate Municipal CEO Involvement in Reg. School Dist. Collective Bargaining
	<u>Strategic Goal IV: Enhance the Quality and Accountability of All Educational Personnel</u>
IV-33	Establish New Standards, Regulations and Processes to Certify and Recertify School Personnel
IV-34	Establish Guidelines and a Statewide Plan for Professional Development
IV-35	Provide Full Certification and Recertification Services
IV-36	Establish Criteria for Performance Standards for Educational Personnel
IV-37	Establish Principles and Enhanced Guidelines for District Systems of Evaluating Teachers, Principals, and Administrators

APPENDIX D (Continued)

<u>Activity No.</u>	<u>Activity Title</u>
IV-38	Determine and Oversee a Process for Selecting Arbitrating Contested Dismissals or Performance Standards
IV-39	Administer the "Attracting Excellence to Teaching" Program
IV-40	Appoint an Advisory Commission on Adult Resources Ratio
IV-41	File a List of All Early Retirement Vacancies with the Legislature
IV-42	Review Affirmative Action Compliance by School Districts
	<u>Strategic Goal V: Improve the Department of Education's Capacity and Effectiveness in Implementing Education Reform</u>
V-43	Improve Public Awareness, Understanding, and Support of Education Reform
V-44	Articulate the Need for Public Support of Education and Assist in Building that Support
V-45	Provide Ongoing Information, Technical Assist., and Training to Support School Dist. in Implementing Education Reform
V-46	Analyze the Education Reform Act and Prepare New Legislation
V-47	Staff the Commission on Regulatory Relief
V-48	Evaluate Department of Education Work prior to MERA Act and Recommend Discontinuance of Non-Essential Activities
V-49	Evaluate Department of Education Resources in Light of New Responsibilities
V-50	Evaluate Department of Education Operations in Light of New Responsibilities
V-51	Prepare an Annual Report on the Conditions of Massachusetts Public Schools
V-52	Prepare an Annual Master Plan for Public Education
V-53	Prepare a Five-Year Master Plan and Annual Progress Reports for Early Childhood, Elementary, Secondary, & Vocational Technical Public Education
V-54	Develop a Statewide Educational Technology Plan Called Mass Ed Online

APPENDIX E

Description of Aid Provided under MERA

- Foundation Aid: Aid given to districts that are below a foundation level of \$5,500 per student.
- Equity Aid: Aid given to communities that tax themselves above a Required Local Effort (RLE) of \$9.40 per \$1,000. Equity Aid does not have to be spent on education; rather it is a "reward" for the communities to use however they see fit.
- Overburden Aid: Aid given to communities of lower property wealth who also have a low-tax effort, but would be severely affected by a large increase in the RLE.
- Minimum Aid: Aid provided of \$75 per student statewide.
- New Region Aid: Aid provided to districts that voluntarily form new regional school districts.
- School Choice Aid: Aid provided to districts that are under foundation budget level and lose students to other districts through the state's school choice program. This program reimburses the districts--either partially or fully depending upon the district's wealth--for the transfer of state funds out of the sending school district to the receiving school district.

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APPENDIX F
Bibliography of Referenced Publications

GOVERNMENT PUBLICATIONS

- (1) The Commonwealth of Massachusetts. Board of Education. Office of Planning, Research and Evaluation. 1975 School Finance Reform Legislation; Equity and Relief: Boston, MA. 1975.
- (2) The Commonwealth of Massachusetts. Board of Education. Office of Planning, Research and Evaluation. 1979 A Student Guide to Chapter 622 The Mass. Equal Opportunity Regulations: Boston, MA. 1979.
- (3) The Commonwealth of Massachusetts. Board of Education. Office of Planning, Research and Evaluation. Chapter 188 Listing of Grants to Local Agencies FY 89: Boston MA. 1989.
- (4) The Commonwealth of Massachusetts. Board of Education. Office of Planning, Research, and Evaluation. Chapter 188 A Snapshot of Program Implementation as of June 30, 1988: Boston MA. 1988.
- (5) The Commonwealth Of Massachusetts. Special Commission on Unequal Education Opportunity. 3rd. Interim Report of the Special Commission Relative to the Commonwealth Pertaining to Elementary and Secondary Education as They Relate to Unequal Educational Opportunities and Services: House No. 5267. Boston MA. 1984.
- (6) The Commonwealth of Massachusetts. General Court Joint Committee on Education. Special Report of the Committee on Education Relative to Improving the Quality of Public Education in the Commonwealth. House No.5000 Boston, MA. 1984.
- (7) The Commonwealth of Massachusetts. Department of Education, Office of Legislative Affairs. Legislative Proposals 1990. Boston, MA. 1990.
- (8) The Commonwealth of Massachusetts. Department of Education, Office of Legislative Affairs. Legislative Proposals 1991. Boston, MA. 1991.
- (9) The Commonwealth of Massachusetts. Department of Education, School Building Assistance Bureau. Chapter 645 of The Acts of 1948. Boston, MA. 1981.
- (10) The Commonwealth of Massachusetts. Department of Education. Annual Report 1985-86. Boston, MA. 1985.
- (11) The Commonwealth of Massachusetts. Department of Education. Directory of Massachusetts Education Laws. Boston, MA. 1975.
- (12) Commonwealth of Massachusetts. Massachusetts Senate. Mass. Financial Commitment to Public Education In the Eighties. Boston MA. Oct. 1989.
- (13) Commonwealth of Massachusetts. Senate Ways and Means. Committee FY 1994 Policy Report #1: The Education Reform Act of 1993.
- (14) Commonwealth of Massachusetts. Department of Education. Education Reform Implementation Plan. Boston, MA. 1993.

APPENDIX F (Continued)

- (15) Commonwealth of Massachusetts. Massachusetts Board of Education. Five Year Master Plan. Boston, MA. March 1995.
- (16) Commonwealth of Massachusetts. House No.1. FY 95 Budget Submission of Governor William F. Weld and Lieutenant Governor Argeo Paul Celluci. Boston MA. January 21, 1994.
- (17) United States. Department of Commerce. Economics and Statistics Administration. Bureau of the Census. Statistical Abstract of The United States 1994. 114th. ed. Washington, DC: GPO, 1994.
- (18) United States. Department of Commerce. Economics and Statistics Administration. Bureau of the Census. Statistical Abstract of The United States 1980. 101st. ed. Washington, DC: GPO, 1980.
- (19) United States. Department of Education. Office of Educational Research and Improvement. 1994 Digest of Educational Statistics. 30th ed. Washington, DC: GPO, 1994.
- (20) United States. Department of Education. Office of Educational Research and Improvement. Projections of Education Statistics to 2005. Washington, DC: GPO, 1994.
- (21) United States. Department of Education. Office of Educational Research and Improvement. Federal Support for Education Fiscal Years 1980-92. Washington, DC: GPO, 1993.
- (22) United States. Department of Education. Office of Educational Research and Improvement. Special Milk Program Evaluation and National School Lunch Program Survey. 3rd Ed. Washington, DC: GPO, 1976.
- (23) United States. Department of Education. Office of Educational Research and Improvement. Measuring Up: Questions About State Roles in Educational Accountability. Washington, DC: GPO, 1988.
- (24) United States. General Accounting Office. Health, Education, and Human Services Division. Early Childhood Centers: Services to Prepare Children for School Often Limited. Washington, DC: GPO, March 1995.
- (24a) United States. General Accounting Office. Health, Education, and Human Services Division. Head Start: Information on Federal Funds Unspent by Program Grantees. Washington, DC: GPO, December 1995.
- (25) United States. General Accounting Office. Health, Education, and Human Services Division. School Facilities: Americas' Schools Not Designed or Equipped for 21st Century. Washington, DC: GPO, April 1995.
- (25a) United States. General Accounting Office. Health, Education, and Human Services Division. School Facilities: States' Financial and Technical Support Varies. Washington, DC: GPO, November 1995.
- (26) United States. General Accounting Office. Health, Education, and Human Services Division. Federal Reorganization: Proposed Mergers Impact on Existing Department of Education Activities. Washington, DC: GPO, June 1995.

APPENDIX F (Continued)

- (27) United States. Department of Education. Office of Special Education and Rehabilitative Services. Office of Special Education Programs Monitoring Report: 1994 Review of the Massachusetts Department of Education. Washington, DC: GPO, May 1995.
- (27a) United States. Department of Education. Office of Special Education and Rehabilitative Services. Review of Mass. Dept of Ed. Implementation of Part B of the Individuals with Disabilities Education Act (Part B). Washington, DC: GPO, May 2, 1995.
- (28) United States. Department of Education. U.S. Advisory Commission on Intergovernmental Relations. The Structure of State Aid to Elementary and Secondary Education. Washington DC: GPO, December, 1990.
- (29) The National Commission on Excellence in Education. "A Nation At Risk: The Imperative For Educational Reform". Washington, DC: GPO, 1983.
- (30) National Education Goals Panel. Background on the National Education Goals Panel. Washington DC: GPO, 1993.
- (31) Massachusetts Taxpayers Foundation. School Finance Reform: The First Two Years. Boston, MA. December 1994.
- (31a) Massachusetts Taxpayers Foundation. The State's Investment in Education: School Finance Reform 1993-1996. Boston, MA. June 1996.
- (31b) MassInsight. "Education Reform Monitoring Project: Superintendent Survey Report". Cambridge, MA. February 1996.
- (32) City of Boston. Finance Commission. Study of the State of Boston High Schools. Boston, MA. July 12, 1995
- (32a) The National Education Commission on Time and Learning. "Prisoners of Time". Washington, DC: GPO, 1994.
- (32b) The National Education Goals Panel. "Building a Nation of Learners". Washington, DC: GPO, 1995.
- (32c) The American Legislative Exchange Council (ALEC). "Report Card on American Education". Pallace Inc. Silver Spring, MD. 1994.
- (32d) The National Conference of State Legislatures. "Voters and School Finance: The Impact of Public Opinion". Washington, DC: GPO, 1993.
- (32e) The Massachusetts Business Alliance for Education (MBAE). "Every Child A Winner". Worcester, MA. July 1991.
- (32f) The Massachusetts Business Alliance for Education (MBAE). "Within Our Reach: A Progress Report on the First Stage of Massachusetts' Education Reform". Worcester, MA. October 1995.
- (32g) The Massachusetts Business Alliance for Education (MBAE). "Annual Report 1995-1996". Worcester, MA. September 1996.

APPENDIX F (Continued)

BOOKS

- (32h) The Massachusetts Business Alliance for Education (MBAE). "Education Reform Progress Report". Worcester, MA. October 1996.
- (32I) The National Conference of State Legislatures. "Better Education Through Informed legislation". Washington, D.C.: GPO, January 1995.
- (33) Baker, Daniel B. Political Quotations. Albany: Sage Hill Publishers, Inc. 1994.
- (34) Barret, Nanette. Education Source Book: The State Legislator's Guide for Reform. Washington, DC: American Legislative Exchange Council, 1985.
- (35) Bennett, William J. The De-valuing of America. New York: Simon & Schuster, 1992.
- (36) Bennett, William J. The Index of Leading Cultural Indicators. New York: Simon & Schuster, 1994.
- (37) Boyer, Ernest L. Report Card On School Reform. New York, NY: Carnegie Foundation, 1988.
- (38) Bullard, Pamela. Taylor, Barbara O. Making School Reform Happen. Boston: 1992
- (39) Deming, W. Edwards. The New Economics for Industry, Government, Education. Cambridge: Massachusetts Institute of Technology, 1993
- (39a) Elmore, F. Richard. Paradox of Innovation in Education: Cycles of Reform and The Resilience of Teaching. Cambridge: Harvard University, Graduation School of Education. July 8, 1991.
- (40) Evans, Thomas W. Mentors: Making A Difference In Our Public Schools. Princeton, New Jersey: Peterson's Guides, 1992.
- (41) Gerhart, Eugene C. Quote It! Memorable Legal Quotations. New York: Clark Boardman Co., Ltd. 1969.
- (42) Glenn, Charles Leslie Jr. The Myth of the Common School. Amherst: The University of Massachusetts Press, 1988.
- (43) Helms, James P. Dictionary of American Biography. Boston: Houghton Mifflin Company, 1960.
- (43a) Hokanson, A. Rudolf, CFA. Educational Publishing: Who Will Buy. New York, New York: CJ Lawrence, August 17, 1994.
- (44) Koshel, Jeff. National Governors Association. Children's Policy Information Project: The Role Played by Head Start in Serving Disadvantaged Children Implications for States. February 1986.
- (44a) Macmillan, Steven. The Macmillan Dictionary of Political Quotations. Boston: Houghton Mifflin Company, 1984.

APPENDIX F (Continued)

- (45) Mayo, Bernard. Jefferson Himself. Boston: Houghton Mifflin Company, 194246) Nasaw, David. Schooled to Order. New York: Oxford University Press, 1979.
- (46) Parker, Franklin. School Reform: Past and Present. Arizona: Northern Arizona University, 1986.
- (47) Pioneer Institute for Public Policy Research. School Choice, Charter Schools, and Senate 1551: Questions and Answers. Pioneer Institute, 1994.
- (48) Rickover, H.G. Vice Admiral, U.S.N. Education and Freedom. New York: E.P. Dutton, 1959.
- (49) Rockwell, Theodore. The Rickover Effect; How One Man Made A Difference. New York: Random House, 1992.
- (50) Silber, John. Straight Shooting: What's Wrong With America and How to Fix It. New York: Harper & Row Publishers, 1989.
- (51) Spring, Joel. The American School 1642-1985. Cincinnati: Longman New York London, 1986.
- (52) Steel, Lauri; Levine, Roger. Educational Innovations in Multiracial Contexts: The Growth of Magnet Schools in American Education. Palo Alto: American Publishing. 1994.
- (53) Thurow, Lester C. Head to Head: The Coming Economic Battle Among Japan, Europe, and America. New York: William Morrow and Company, Inc., 1992.
- (54) Thurow, Lester C. The Zero-Sum Solution: Building A World-Class American Economy. New York: Simon and Schuster, 1985
- (55) Thurow, Lester C. Dangerous Currents: The State of Economics. New York: William Morrow and Company, Inc., 1983
- (56) Tyack, David. Managers of Virtue: Public School Leadership in America, 1820-1980. New York: Basic Books, Inc., 1982.
- (57) Tyack, David & Larry Cuban. Tinkering toward Utopia Cambridge, London: Harvard University Press, 1995.
- (58) Walsh, Catherine E. School of Education University of Massachusetts at Amherst. Horace Mann Bond Center for Equal Education. Yearbook of Equal Education in Massachusetts. Boston, MA: Univ. of Mass. Publication Office, 1982.
- (59) Washington, Valora; Oyemade, Jean U. Project Head Start. New York: Garland Publishing, Inc., 1987.
- (60) Wilson, Steve. Respectfully Quoted - A Dictionary of Quotations Requested From the Congressional Research Service. New York: Simon and Schuster, 1983.
- (60a) Wyatt, Doug. National Science Foundation. New York: William Morrow and Co. Inc., 1995.

APPENDIX F (Continued)

JOURNALS - PERIODICALS

- (60b) Young, James; James Gibson; John Ivanevich. Fundamentals of Management: 8th Edition, New York: Irwin Inc., 1992.
- (60c) Young, Walter. The Sorting Machine-Educational Policy Since 1945: New York: Simon and Schuster, 1988.
- (61) Anthony, Patricia. The Massachusetts Education Reform Act: What Is It and Will it Work?? Viewpoints: 1994.
- (62) Aubrey, Roger. "Reform in Schooling: Four Proposals on an Educational Quest". Journal of Counseling and Development: December 1986.
- (63) Avishai, Bernard. "What is Business's Social Compact"? Harvard Business Review: Vol.73, #1. 1994.
- (63a) Barret, J. Michael. "The 220-Day School Year-News Coverage". Newsweek: May 1995.
- (64) Bell, Terrel H. "Reflections One Decade After A Nation At Risk". Phi Delta Kappa: Vol.74, #10.
- (64a) Boysen, Thomas C. "The Governors and Their Stone Age Schools". Education Week: February 21, 1996.
- (65) Bracey, Gerald W. "Goals 2000: Educate America Act Final". HR Magazine: Vol. 39, Issue 1994.
- (66) Buchser, Linda. "School Finance Reform: The Quest For Equal Educational Opportunity". Viewpoints: December 16, 1982. "Educational Opportunity". Viewpoints: December 16, 1982.
- (67) Cawelti, Gordon. "Designing Curriculum Appropriate to the 21st Century". Association for the Advancement of International Education: 1993.
- (68) Crosby, Emeral A. "The at Risk Decade". Phi Delta Kappa: Vol.75, #3. 1993.
- (69) Crouse, James. "How Effective Are American Schools"? Phi Delta Kappa: Vol.76, #2. 1994.
- (70) Danzberger, Jacquelin P. "Governing the Nation's Schools: The Case for Restructuring Local School Boards". Phi Delta Kappa: Vol.75, #5.
- (71) DesDixon, R.G. "Future Schools and How to Get There from Here". Phi Delta Kappa: Vol.75, #5. 1994.
- (71a) DiegmueLLer, Karen. "Report Offers Ways To Improve History Standards". Education Week: January 17, 1996.
- (72) Doyle, Denis P. "The Role of Private Sector Management in Public Education". Phi Delta Kappa: Vol. 76, #2. 1994

APPENDIX F (Continued)

- (73) Drazen, Shelle. "Student Achievement and Family and Community Poverty: Twenty Years of Education Reform". Viewpoints: April 1992.
- (74) Education Commission of the States. "The Allocation of Money and Its Impact on Education". Viewpoints: Denver, CO. September 1992.
- (74a) Elam, Stanley M.; Rose, Lowell C.; Gallup, Alec M. "The 21st Annual Gallup Phi Delta Kappa Poll of the Public Attitudes Toward the Public Schools". Phi Delta Kappa: Vol.71, #1. 1987.
- (75) Elam, Stanley M.; Rose, Lowell C.; Gallup, Alec M. "The 24th Annual Gallup Phi Delta Kappa Poll of the Public Attitudes Toward the Public Schools". Phi Delta Kappa: Vol.71, #1. 1989.
- (76) Elam, Stanley M.; Lowell. Rose C.; Gallup, Alec M. "The 26th Annual Phi Delta Kappa/ Gallup Poll of the Public's Attitudes Toward the Public Schools". Phi Delta Kappa: Vol.76, #1. 1994.
- (77) Finn Jr., Chester E. "The Return of the Dinosaurs". National Review: September 20, 1993.
- (78) Frahm, Robert A. "The Failure of The Connecticut's Reform Plan: Lessons for the Nation". Phi Delta Kappa: Vol.76, #2. 1994.
- (79) Guthrie, James W. "Do Americas' Schools Need A Dow Jones Index"? Clearing House: Vol.68, 1994.
- (79a) Harp, Lonnie. "OCR Probes Bias Complaint Against Texas Exit Test". Education Week: February 7, 1996.
- (80) Henry, William. "Some Points to Make When you Talk About the Summit". Viewpoint: June 1, 1990.
- (81) Hixson, Judson. "Chicago School Reform Reinvents Central Support System". Education and Urban Society: Vol.26, #3. 1994.
- (82) Hudelson, Dale. "Roots of Reform". Vocational Education Journal: Vol.67, #7. 1992.
- (83) James, Thomas and Tyack, David. "Learning from Past Efforts to Reform the High School". Phi Delta Kappa: February 1993.
- (84) Kantor, Harvey. "Education, Social Reform, and the State: ESEA and Federal Education Policy in the 1960's". Viewpoints: University of Chicago, 1991.
- (85) Kirst, Michael W. "Strengths and Weaknesses of American Education". Phi Delta Kappa: Vol.75, #5 1994.
- (86) Kirst, Michael. "Recent State Education Reform in the United States: Looking Backward and Forward". Viewpoints: University Council for Educational Administration, 1988.
- (87) Kozol, Jonathan. "Budgets and Inequity". Washington News: Vol.3, #4 1994.

APPENDIX F (Continued)

- (88) Kuntz, Phil. "Funding By Title". CO Researcher: Vol.4, #38, 1994.
- (88a) Lawton, Millicent. "State Test Questions Focus of Renewed Scrutiny". Education Week: January 31, 1996.
- (88b) Lawton, Millicent. "Judge Upholds Ohio Test For Private Students". Education Week: February 7, 1996.
- (88c) Lawton, Millicent. "States Move to Toughen Exit Exams". Education Week: February 21, 1996.
- (88d) Lewis, Anne C. "An Overview of the Standards Movement". Phi Delta Kappa: June 1, 1995.
- (89) Long, Janice. "ACS Views on Education, Tax Exempt Bonds". Chemical & Engineering News: Vol.12, Issue 4. 1993.
- (90) Lunenburg, Fred. "Introduction: The Current Educational Reform Movement - History, Progress to Date, and the Future". University of Louisville, Viewpoint: 1992.
- (90a) Magnusson, Paul. "John Dewey Meet Peter Drucker". Business Week: January 8, 1996.
- (91) McNeir, Gwennis. "Outcomes-Based Education: Tool for Restructuring". Oregon School Study Council: 1993.
- (92) Mumper, Michael. "Politics, Economics, and School Reform". Chicago, Viewpoint: 1985.
- (92a) Neill, Monty. "Assessment Reform at a Crossroads". Education Week: February 28, 1996.
- (92b) Odden, Allan. "Productive Discussions About the Education Dollar". Education Week: February 7, 1996.
- (93) Parker, Franklin and Betty. "A Historical Perspective on School Reform". The Education Forum: 1995.
- (94) Passow, A. Harry. "Whither (or Wither?) School Reform"? The University Council for Educational Administration, Viewpoint: 1988.
- (95) Paul, Richard W. "Critical Thinking and Educational Reform; The Emerging Revolution". Viewpoint: August 10, 1984.
- (96) Peck, Brian T. "Learning Alike Thinking Alike"? The Economist: Vol. 331, Issue 7857. 1994.
- (97) Piphon, Chris. "The Scent of the Future". Phi Delta Kappa: Vol.76, #1. 1994.
- (98) Pitsch, Mark. "Summary of Improving Americas Schools". Education Week: Vol.14, Issue 14. 1994.

APPENDIX F (Continued)

- (98a) Ponessa, Jeanne. "Teachers Agree Stress Needed on 'the Basics'". Education Week: February 6, 1996.
- (99) Porter, Andrew C. "Assessing National Goals: Some Measurement Dilemmas". Viewpoint: October 27, 1990.
- (100) Radenbaugh, Byron F. "Democratizing Educational Research or Why is Our Nation Still at Risk After Ten Years Of Educational Reform". Phi Delta Kappa: Vol.74, #10.
- (101) Reese, William J. "History of Organizational Structure and Governance". Encyclopedia of Educational Research: Vol.3. 1992.
- (101a) Rifkin, Jeremy. "Rethinking the Mission of American Education". Education Week: January 31, 1996.
- (102) Riley, Richard. "Educating the Workforce of the Future". Harvard Business Review: Vol.73, #2. 1994.
- (103) Salmon, Paul B. "Strengthening America Through Stronger Education". American Education Journal: Vol.19 #3.
- (104) Schnuth, Mary Lee. "Historical Perspective of Educational Reform". Viewpoint: February 1986.
- (105) Scott, Matthew S. "Reinventing American Schools". Black Enterprise: Vol.24, Issue 2 1993.
- (106) Southern Regional Education Board. "Looking Back at a Decade of Educational Improvement: What is Different Today? Why Are We Disappointed? What Are We Learning?" Viewpoint: Atlanta, Georgia. 1993.
- (107) Stone, Nan. "Does Business Have Any Business in Education". Harvard Business Review: Vol.70, #2. 1991.
- (108) Strickland, Charles E. "Sputnik Reform Revisited". Educational Studies: Vol.16, Issue 2. 1985.
- (109) Tilley, Arthur F. "Are We Spending Enough On Americas Schools?" Readers Digest: Feb. 15, 1992.
- (110) Tyack, David. "Public School Reform: Policy Talk and Institutional Practice". American Journal of Education: Vol.100, #1. 1992.
- (111) Tyack, David. "Public School Reform: Policy Talk and Institutional Practice". Viewpoint: Chicago, 1991.
- (112) Walters, Johnathan. "School Funding: Should Affluent Districts Be Forced To Aid Poorer Neighbors?" CQ Researcher: Vol.3, #32 1993.
- (113) Warren, Donald. "Original Intents: Public Schools as Civic Education". Theory Into Practice: Vol.27, #4. 1988.

APPENDIX F (Continued)

- (113a) Wingert, Pat. "Did Washington Hate Gays"? Newsweek: October 16, 1995.
- (114) Winter, Janet. "Educational Reform". Viewpoints: Vol.10, 1988.
- (115) Wolfthal, Maurice. "We Won't Reform Schools by Turning Back". Educational Leadership: September, 1986.
- (116) Young, Owen D. "Dedication Address: For the Baker Buildings at Harvard". Harvard Business Review: Vol.5, #4. 1927.
- (117) Kantrowitz, Barbara.; Wingert, Pat. "An 'F' In World Competition". Newsweek: February 17, 1992.
- (118) Kiester jr., Edwin. "The G.I. Bill May Be the Best Deal Ever Made By Uncle Sam". Smithsonian: Vol.25, #8.
- (119) Smith, Steve. "Losing an Edge". Time: July 20, 1992. Vol.140, #3.
- (119a) Tochetti, Thomas. "Why Teachers". U.S. News & World Report: February 26, 1996.
- (119b) Viadero, Debra. "Study Finds Variations in Math, Science Tests in & Nations". Education Week: January 10, 1996.

NEWSPAPERS

- (120) Boston Globe: Articles on education reform from 12/15/91 to 4/10/96. Collecting articles on ongoing basis as they appear in the newspaper. A total of 145 articles to date.
- (121) Boston Herald: Articles on education reform from 4/8/95 to 4/13/96. Collecting articles on ongoing basis as they appear in the newspaper. A total of 23 articles to date.
- (122) Education Today: Newspaper published by the Department of Education from 5/93 to 6/95.
- (123) Investor's Business Daily: Articles on education reform from 8/22/95 to 8/22/95. Collecting articles on ongoing basis as they appear in the newspaper. A total of one article to date.
- (124) L.A. Times: Articles on education reform from 11/28/94 to 3/17/95. Collecting articles on ongoing basis as they appear in the newspaper. A total of two articles to date.
- (125) Middlesex News: Articles on education reform from 5/13/95 to 5/13/95. Collecting articles on ongoing basis as they appear in the newspaper. A total of one article to date.
- (126) Patriot Ledger: Articles on education reform from 5/15/95 to 9/14/95. Collecting articles on ongoing basis as they appear in the newspaper. A total of three articles to date.
- (127) Project Education Reform: Time for Results. Newspaper newsletter distributed by the United States Department of Education, issues dated

APPENDIX F (Continued)

May 1987, September 1987, and December 1987.

- (128) School Law News: Articles on education reform from 3/24/95 to 3/24/95. Collecting articles on ongoing basis as they appear in the newspaper. A total of one article to date.
- (129) Wall Street Journal: Articles on education reform from 1/4/93 to 3/29/95. Collecting articles on ongoing basis as they appear in the newspaper. A total of 44 articles to date.

FEDERAL LEGISLATION

- (130) United States. Laws of the 85th Congress-2nd Session. National Defense Education Act of 1958. Public Law 85-864; 72 Statute.
- (131) United States. Laws of the 88th Congress-2nd Session. Economic Opportunity Act of 1964. Public Law 88-452. 78th Statute.
- (132) United States. Laws of the 89th Congress-2nd Session. Elementary and Secondary Education Act Of 1965. Public Law 89-10; 79 Statute.
- (133) United States. Laws of the 103rd Congress-2nd Session. Goals 2000: Educate America Act. Public Law 103-227; 108th Statute.

STATE LEGISLATION

- (134) The Commonwealth of Massachusetts. An Act to Encourage the Establishment of Regional and Consolidated Public Schools and to Provide Financial Assistance to Cities and Towns in the Construction of School Buildings. Chapter 645 of the General Laws of the Acts of 1948.
- (135) The Commonwealth of Massachusetts. An Act to Improve and Extend Educational Facilities in the Commonwealth. Chapter 572 of the General Laws of the Acts of 1965.
- (136) The Commonwealth of Massachusetts. An Act Imposing A Temporary Tax on Retail Sales, and A Temporary Excise upon The Storage , Use or Other Consumption, of Certain Tangible Personal Property, Revising and Imposing Certain Other Taxes and Excises, Establishing the Local Aid Fund, and Providing for the Distribution of Funds Therefrom to Cities and Towns. Chapter 14 of the General Laws of the Acts of 1966.
- (137) The Commonwealth of Massachusetts. An Act Providing for the Establishment and Implementation of Programs in Transitional Bilingual Education in the Public Schools of the Commonwealth, With Reimbursement by the Commonwealth to Cities, Towns and School Districts to Finance the Additional Costs of Such Programs. Chapter 1005 of the General Laws of the Acts of 1971.
- (138) The Commonwealth of Massachusetts. An Act to Prohibit Discrimination in Public Schools. Chapter 622 of the General Laws of 1971.

APPENDIX F (Continued)

- (139) The Commonwealth of Massachusetts. An Act Further Regulating Programs for Children Requiring Special Education and Providing Reimbursement Therefore. Chapter 766 of the General Laws of the Acts of 1972.
- (140) The Commonwealth of Massachusetts. An Act Regulating the Issuance of Educational Certificates and Establishing A Commission for the Division of Educational Personnel. Chapter 847 of the General Laws of 1973.
- (141) The Commonwealth of Massachusetts. An Act Amending the Racial Imbalance Law. Chapter 636 of the General Laws of 1974.
- (142) The Commonwealth of Massachusetts. An Act Making Appropriations for the Fiscal Year 1979 , For the Maintenance of the Departments, Boards, Commissions, Institutions and Certain Activities of the Commonwealth for Interest, Sinking Fund and Serial Bond Requirements and for Certain Permanent Improvements. Chapter 367 of the General Laws of 1978.
- (143) The Commonwealth of Massachusetts. An Act Improving the Public Schools of the Commonwealth. Chapter 188 of the General Laws of 1985.
- (144) The Commonwealth of Massachusetts. An Act Enhancing the Teaching Profession and Recognizing Educational Achievement. Chapter 727 of the General Laws of 1987.
- (145) The Commonwealth of Massachusetts. An Act Making Corrective Changes to the Law Relative to Teacher Enhancement. Chapter 7 of the General Laws of 1988.
- (146) The Commonwealth of Massachusetts. An Act Establishing the Massachusetts Education Reform Act of 1993. Chapter 71 of the General Laws of 1993.
- (147) The Commonwealth of Massachusetts. Jami McDuffy vs. The Secretary of Education. Supreme Judicial Court, June 1993.
- (148) The Commonwealth of Massachusetts. Selected Milestones in Education Reform in Massachusetts: Court Decisions. Supreme Judicial Court, June 1995.
- (149) The United States Department of Education. Office of Special Education Program Monitoring Report. 1994 Review of the Massachusetts Department of Education's Implementation of Part B of the Individuals with Disabilities Educational Act, May 1995.

